FILE 'POTFULL' ENTERED AT 14:08:41 ON 24 JUN 2003 COPYRIGHT (C) 2002 Univentio

= s ll and protecting L.: 5 FILE USPATFULL 0 FILE MEDLINE L^{\pm} 2 FILE IFIPAT L40 FILE USPAT2
1 FILE CAPLUS
1 FILE WPIDS
0 FILE EUROPATFULL
1 FILE PATOSWO L' LE 1.7 L8 L^{\Box} L101 FILE PCTFULL TOTAL FOR ALL FILES Lil 11 LI AND PROTECTING = dup rem 111 PROCESSING COMPLETED FOR L11 7 DUP REM L11 (4 DUPLICATES REMOVED) = d 112 1-7 ibib abs L12 ANSWER 1 OF 7 USPATFULL DUPLICATE 1 ACCESSION NUMBER: 2002:126323 USPATFULL TITLE: Purification of human troponin INVENTOR(S): Conn, Gregory, Cary, NC, UNITED STATES Reardon, Brian, Seattle, WA, UNITED STATES Leng, Mianfang, Northborough, MA, UNITED STATES Thang, Chenming, Blacksburg, VA, UNITED STATES PATENT ASSIGNEE(S): Diesynth RTP, Inc. (U.S. corporation) NUMBER KIND DATE PATENT INFORMATION: US 2002064835 A1 20020530 APPLICATION INFO.: US 2001-903398 A1 20010710 (9) NUMBER DATE PRIORITY INFORMATION: US 2000-217069P 20000710 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: DARBY A DARBY P.C., 805 Third Avenue, New York, NY, NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DEAWINGS: 11 Drawing Page(s)
LINE COUNT: 566 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The invention is directed to methods for purifying Troponin I, particularly recombinant Tropnin I produced in a bacterial expression system. Recombinant Trophin I can be advantageously purified after reversibly protecting the free sulfhydryl groups, e.g., by forming sulfates. In a specific example, Tropnin I reacted with sodium tetrafhionate yielded sulfitolyzed Tropnin I, which was purified by chromatography on an anion exchanger, followed by hyd:ophobic interaction chromatography. Facile deprotection of the sulfhydryl groups yields a highly purified product ready for refoldina.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 2 OF 7 USPATFULL

ACCESSION NUMBER: 2002:105940 USPATFULL

DUPLICATE 2

Purification of human troponin TITLE:

INVENTOR(S): Conn, Gregory, Cary, NC, UNITED STATES

Reardon, Brian, Seattle, WA, UNITED STATES

Zeng, Kianfang, Northborough, MA, UNITED STATES Thang, Chenming, Blacksburg, VA, UNITED STATES

Diosynth RTP, Inc. (U.S. corporation) PATENT ASSIGNEE(S):

NUMBER KIND DATE

PATENT INFORMATION: US 2002055145 A1 20020509 APPLICATION INFO.: US 2001-998619 A1 20011130 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-903398, filed on 10

Jul 2001, PENDING

NUMBER DATE ______

PRIORITY INFORMATION: US 2000-217069P 20000710 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: DARBY & DAPBY P.C., 805 Third Avenue, New York, NY,

10022 20

NUMBER OF CLAIMS: EXEMPLARY CLAIM:

11.

NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 570

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The invention is directed to methods for purifying Troponin

I, particularly recembinant Tropnin I produced in a bacterial expression system. Recombinant Tropnin I can be advantageously purified after reversibly protecting the free sulfhydryl

groups, e.g., by forming sulfates. In a specific example, Tropnin I reacted with sodium tetrathionate yielded sulfitolyzed Tropnin I, which was purified by chromatography on an anion exchanger, followed by hydrophobic interaction chromatography. Facile deprotection of the sulfhydryl groups yields a highly purified product ready for refolding.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3

ACCESSION NUMBER: 2002:51523 CAPLUS

DOCUMENT NUMBER:

136:101.58

TITLE:

Chromatographic purification of human

sulfhydryl-protected recombinant

troponin I

INVENTOR(S):

Conn, Gregory; Reardon, Brian; Zeng, Kiangang; Zhang,

Chemming

PATENT ASSIGNEE(S): Diosynth ETF, Inc., USA

SCURCE:

PCT Int. Appl., 08 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patienti

LANGUAGE:

FAMILY ACC. NUM. CCUNT: 1

Enalish

PATENT INFORMATION:

PΆ	TENT	$N \odot$.		K. L	D)	DATE			А	F, F, I' T i	CALL	CA N	U.	DATE		
$W \cap$	2002	0945	12	А	<u>.</u>	1602	0117		W	0-20	(1-U	S218	17	2001	0710	
$W(\cdot)$	2002	0045	1.	А	3	2662	0516									
	W:	ΑE,	AG,	AL,	ΑM,	ΑT,	ΑU,	AZ,	FA,	ÞΒ,	B≔,	BE,	BY,	B2,	CA,	СН
		$\Box(\bigcirc)$	CF.	CU.	C.Z.	DEL	DK.	DM.	EC.	ELEL.	F1.3	F' I .	GB.	GD.	GE.	ΗF

CO, CE, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, HE, HU, ID, IL, IN, IS, JP, KE, KG, FF, FR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,

SE, SG, SI, SF, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,

ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MS, SD, SL, SS, TS, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,

BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002064835 A1 20020509 US 2001-903398 20010710 US 2002055145 A1 20020509 US 2001-998619 20011130 RITY APPLN. INFO.: US 2000-217069P P 200000710 PRIORITY APPLN. INFO.: US 2001-903398 AT 20010710

The invention is directed to methods for purifying troponin AB

I, particularly recombinant troponin I

produced in a bacterial expression system. Recombinant troponin

I can be advantageously purified after reversibly

protecting the free sulfhydryl groups, e.g. by forming

sulfates. In a specific example, troponin I reacted

with sodium tetrathionate yielded sulfitolyzed troponin

I, which was purified by chromatog, on an anion exchanger,

followed by hydrophobic interaction chromatog. Facile deprotection of the sulfhydryl groups yields a highly purified product ready for

refolding.

L12 ANSWER 4 OF 7 USPATFULL

ACCESSION NUMBER:

2002:85170 USPATFULL

TITLE:

Neuropeptide-like polypeptide zpep17

INVENTOR(S):

Sheppard, Paull O., Granite Falls, WA, UNITED STATES

Bishop, Paul D., Fall City, WA, UNITED STATES

NUMBER KIND DATE _____ PATENT INFORMATION: US 2002045210 A1 20020418 APPLICATION INFO.: US 2001-776795 A1 20010205 (9)

> NUMBER DATE ...----

LEGAL REPRESENTATIVE: Jennifer K. Johnson, ZymoGenetics, Inc, 1201 Eastlake

Avenue East, Seattle, WA, 98102

NUMBER OF CLAIMS:

EXEMPLARY CLAIM:

26 1.

NUMBER OF DRAWINGS: 12 Drawing Page(s) LINE COUNT: 4459

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to polynuclectide and polypeptide molecules for zpep17, a novel secreted protein. The polynucleotides encoding zpep17, may, for example, be used to identify a region of the genome associated with human disease states. The present invention also includes methods for producing the protein, uses therefor and antibodies thereto.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 5 OF 7 USPATFULL

ACCESSION NUMBER: 2000:43270 USPATFULL

TITLE:

Methods for analyzing protein binding events

INVENTOR(S): Hefti, John J., San Francisco, CA, UNITED STATES

NUMBEE KIND DATE

PATENT INFORMATION: US 2002028461 A. 20620707 APPLICATION INFO.: US 2001-9.3474 A. 20610806 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-365180, filed on 2 Aug 1999, GFANTED, Pat. No. US #287874 Continuation-in-part

of Ser. No. US 1999-243194, filed on 1 Feb 1999,

NUMBER DATE _____

US 1993-73445P 19980202 (60) US 1999-134740P 19990518 (60) PF.IORITY INFORMATION:

DOCUMENT TYPE: Utility FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Richard L. Neeley, Clifford B. Perry, Signature

BioScience, Inc., 21124 Cabot Boulevard, Hayward, CA,

94545-1130

NUMBER OF CLAIMS: 45 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 37 Drawing Page(s)

4041LINE COUNT:

CAS INDEMING IS AVAILABLE FOR THIS PATENT.

The present invention provides a variety of methods of analyzing protein binding events using a system capable of directly detecting protein/ligand complexes based upon the dielectric properties of the complex. The system can be used in a variety of analyses involving protein binding events, such as screening ligand libraries, characterizing protein binding interactions, and identifying ligands. The system can also be utilized in diverse analytical and diagnostic applications.

CAS INDEMING IS AVAILABLE FOR THIS PATENT.

PCTFULL COPYRIGHT 2002 Univentio ANSWER 6 OF 7

ACCESSION NUMBER: 0000036624 PCTFULL ED 20020523 EW 200219

TITLE (ENGLISH): METHODS AND COMPOSITIONS RELATING TO FORTILIN, AN ANTI-APOPTOTIC MOLECULE, AND MODULATORS OF FORTILIN

PROCEDES ET COMPOSITIONS ASSOCIES A LA FORTILINE, UNE TITLE (FRENCH):

MOLECULE ANTI-APOPTOTIQUE, ET MODULATEURS DE FORTILINE

INVENTOR(S): FUJISE, Kenichi; YEH, Edward

BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM, for PATENT ASSIGNEE(S):

all designates States except US; FUJISE, Kenichi, for

US only; YEH, Edward, for US only

AGENT: SHISHIMA, Gina, N.

LANGUAGE OF FUBL.: English LANGUAGE OF FILING: English DOCUMENT TYPE: Patent

PATENT INFORMATION:

NUMBER KIND DATE

WO 0002036624 A2 00020510 AE AG AL AM AT AU AZ BA BB BG BR BY BE CA CH ON CO CR DESIGNATED STATES:

CU CO DE DE DE DE DE DO EC EE ES FI GB GD GE GH GM HR HU ID

IL IN IS JP KE KG KP KE KZ LC LK LE LS LT LU LV MA MD MS MK MN MW MK MS NO NO PH PL PT RO RU SD SE SG SI SK OL TO THE TREAT TO UA UG US UZ VIEYU ZA ZW GH GM KE LS

MW MC SD SL SC TZ UG DW AM AC BY KG KC MD RU TJ TM AT BE CHICY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

BE BU CF CG CI CM GA GN GQ GW ML ME NE SN TD TG

WO .7001-US42995 A 20011030 APPLICATION INFO .: us 2000-60/244,416 20001030 PRIORITY INFO.:

The polyreptide Fortulin (also known as Translationally Controlled ABEN Tumour Protein, ToTP) specifically interacts with p53, a tumor suppressor involved in the induction of apoptosis and the normal growth regulation of a cell. Fortilin also specifically binds MCLL (Myeliid Gell Leukemia 1). Fortilin has the ability to prevent apoptosis, which may be unregulated in hyperproliferative wells. The present invention is directed at compositions and methods involving a Fortilin modulator, which can induce apoptosis, for the prevention, treatment, or diagnosis

of hyperproliferative diseases and conditions, including cancer and atherosclerosis. It is directed also at compositions and methods

involving Fortilin, which can inhibit apoptosis, for the treatment of diseases and condition characterized by apoptosis, including certain vascular conditions.

Le polypeptide fortiline (egalement appele proteine tumorale de ABFR regulation de traduction, TCTP) interagit specifiquement avec p53, un suppresseur de tumeur intervenant dans l'induction de l'apoptose et la regulation de la croissance normale d'une cellule. La fortiline se lie aussi specifiquement a MCL1 (leucemie myeloide 1). La fortiline est capable de prevenir l'apoptose, qui peut etre dereglee dans des cellules hyperproliferatives. L'invention concerne des compositions et des procedes comprenant un modulateur de fortiline, capable d'induire l'apoptose, pour prevenir, traiter ou diagnostiquer des maladies ou des affections hyperproliferatives, y compris le cancer et l'atherosclerose ; ainsi que des compositions et des procedes comprenant la fortiline, capable d'inhiber l'apoptose, pour traiter des maladies et affections caracterisees par l'apoptose, y compris certaines affections vasculaires.

L12 ANSWER 7 OF 7 USPATFULL

ACCESSION NUMBER: 2001:152781 USPATFULL

TITLE: Methods for analyzing protein binding events INVENTOR(S): Hefti, John, San Francisco, CA, United States

PATENT ASSIGNEE(S): Signature BioScience, Inc., Hayward, CA, United States

(U.S. corporation)

NUMBER KIND DATE PATENT INFORMATION: US 6287874 B1 20010911
APPLICATION INFO.: US 1999-365580 19990802 (9)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-243194, filed

on 1 Feb 1999

NUMBER DATE ______

PRIORITY INFORMATION: US 1998-73445P 19980202 (60) US 1999-134740P 19990518 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Horlick, Kenneth R.
ASSISTANT EXAMINER: Strzelecka, Teresa

LEGAL REFRESENTATIVE: Ausenhus, Scott L., Perry, Clifford B., Neeley, Richard

45

NUMBER OF CLAIMS: EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 44 Drawing Figure(s); 33 Drawing Page(s) LINE COUNT: 4099

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides a variety of methods of analyzing protein AB bunding events using a system capable of directly detecting protein/ligand complexes based upon the dielectric properties of the complex. The system can be used in a variety of analyses involving protein binding events, such as screening ligand libraries, characterizing protein binding interactions, and identifying ligands. The system can also be utilized in diverse analytical and diagnostic applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

⇒> s tropenin and purification L13 270 FILE USPATFULL L14 479 FILE MEDLINE
L15 5 FILE IFIPAT
L16 5 FILE USPAT2
L17 204 FILE CAPLUS 479 FILE MEDLINE

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Ll8
L19
           45 FILE EUROPATFULL
L30
            4 FILE PATOSWO
L21
           19 FILE PCTFULL
TOTAL FOR ALL FILES
       1042 TROPONIN AND PURIFICATION
= - s lill and (sulfhydryl (w) group)
LOB 35 FILE USPATFULL
L.:4
           3 FILE MEDLINE
Lib
           2 FILE IFIPAT
L.16
          2 FILE USFAT2
1 FILE CAPLUS
L27
L1.8
           I FILE WPIDS
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           l FILE EUROPATFULL
L30
            ! FILE PATOSWO
            : FILE PCTFULL
TOTAL FOR ALL FILES
L33 47 L23 AND (SULFHYDEYL (W) GROUP)
= dup rem 130
PROCESSING COMPLETED FOR 1.32
            41 DUP REM L32 (6 DUPLICATES REMOVED)
= \cdot d 133 1-41 ibib abs
L33 ANSWER 1 OF 41 USPATFULL
                                                       DUPLICATE 1
ACCESSION NUMBER:
                       2002:126323 USPATFULL
TITLE:
                        Purification of human troponin I
                        Conn, Gregory, Cary, NC, UNITED STATES
Reardon, Brian, Seattle, WA, UNITED STATES
INVENTOR(S):
                        Zeng, Klanfang, Northborough, MA, UNITED STATES
                        Thang, Chenming, Blacksburg, VA, UNITED STATES
PATENT ASSIGNEE(S):
                       Diosynth RTP, Inc. (U.S. corporation)
                            NUMBER KIND DATE
                        ......
PATENT INFORMATION: US 2002064835 A1 20020530 APPLICATION INFO.: US 2001-903398 A1 20010710 (9)
                             NUMBER DATE
                        ........
PRIORITY INFORMATION: US 2000-217069P 20000710 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: DARBY & DARBY P.C., 805 Third Avenue, New York, NY,
                     10002
NUMBER OF CLAIMS:
                       20
                       1.
EXEMPLARY CLAIM:
NUMBER OF DRAWINGS: 11 I
                       - II Drawing Page(s)
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       The invention is directed to methods for purifying Troponin I,
       particularly recombinant Tropnin I produced in a bacterial expression
       system. Recombinant Tropnin I can be advantageously purified after
       reversibly protecting the free sulfhydryl groups,
       \psi,\mathfrak{g}_{+},\mathfrak{f}_{+} by forming sulfates. In a specific example, Tropnin I reacted with
       sodium tetrafhiznate yielded sulfitelyzed Tropnin I, which was purified
       by chrematography on an anion exchanger, followed by hydrophobic
       interaction chromatography. Facile deprotection of the
       sulfhydryl groups yields a highly purified product
       ready for refolding.
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11 FILE WPIDS

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 2 OF 41 USPATFULL DUPLICATE 2

ACCESSION NUMBER: 2002:105940 USPATFULL

TITLE: Purification of human troponin I

Conn, Gregory, Cary, NC, UNITED STATES Reardon, Brian, Seattle, WA, UNITED STATES INVENTOR(S::

Seng, Xianfang, Northborough, MA, UNITED STATES Thang, Chenming, Blacksburg, VA, UNITED STATES

Diosynth RTP, Inc. (U.S. corporation) PATENT ASSIGNEE(S):

> NUMBER KIND DATE

PATENT INFORMATION: US 2002055145 A1 20020509 APPLICATION INFO:: US 2001-998619 A1 20011130 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-903398, filed on 10

Jul 2001, PENDING

NUMBER DATE

PRIORITY INFORMATION: US 2000-217069P 20000710 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: DARBY & DAFBY P.C., 805 Third Avenue, New York, NY, 10022

NUMBER OF CLAIMS: 50
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 570

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The invention is directed to methods for purifying Troponin I,

particularly recombinant Tropnin I produced in a bacterial expression system. Fecombinant Tropnin I can be advantageously purified after

reversibly protecting the free sulfhydryl groups,

e.g., by forming sulfates. In a specific example, Tropnin I reacted with sodium tetrafhionate yielded sulfitolyzed Tropnin I, which was purified

by chromatography on an anion exchanger, followed by hydrophobic interaction chromatography. Facile deprotection of the

sulfhydryl groups yields a highly purified product

ready for refolding.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 3 OF 41 USPATFULL DUPLICATE 3

ACCESSION NUMBER: 2002:16843 USPATFULL

TITLE: FESCHANT BIO-ASSAY DEVICE AND TEST SYSTEM FOR DETECTING

MOLECULAR BINDING EVENTS

HEFTI, JOHN, SAN FRANCISCO, CA, UNITED STATES INVENTOF(S):

NUMBER KIND DATE ______ US 2002009723 Al 20020124 US 6376259 B2 20020423 US 2000-480846 Al 20000110 (9) PATENT INFORMATION:

APPLICATION INFO .: RELATED APPLN. INFO.: Continuation of Ser. No. US 1949-365578, filed on 2 Aug

1999, PENDING Continuation-in-part of Ser. No. US

1999-243196, filed on 1 Feb 1949, PENDING

Continuation in part of Ser. No. US 1999-243194, filed

on 1 Feb 1399, PENDING

NUMBEL. DATE PRIORITY INFORMATION: US 1998-73445P 19980202 (60)

DCCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: SIGNATURE BIOSCIENCE, INC., 21124 CABOT BLVD., HAYWARD,

CA, 94545-1130

64 NUMBER OF CLAIMS: EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 28 Drawing Page(s) LINE COUNT: 3548

CAS INDEMING IS AVAILABLE FOR THIS PATENT.

Systems and methods are presented for detecting molecular binding events and other environmental effects using the unique dielectric properties of the bound molecular structure or structures. A molecular binding region is coupled along the surface of a signal path. A test signal is propagated along the signal path, whereby the test signal couples to the molecular binding region, and in response, exhibits a signal response.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 4 OF 41 USPATFULL DUPLICATE 4

ACCESSION NUMBER: 2002:122429 USPATFULL

TITLE: Computer program and database structure for detecting

molecular binding events

INVENTOR(S): Hefti, John, San Francisco, CA, United States

INVENTOR(S): Hetti, John, San Francisco, C., IIII

PATENT ASSIGNEE(S): Signature BioScience, Inc., Hayward, CA, United States

(U.S. corporation)

NUMBER KIND DATE PATENT INFORMATION: US 6395480 B1 20020528
US 2002072857 A1 20020613

APPLICATION INFO.: US 1999-243196 19990201 (9)
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Brusca, John S.
ASSISTANT EXAMINER: Kim, Young
LEGAL REPRESENTATIVE: Perry Clafford B LEGAL FEFRESENTATIVE: Perry, Clifford B.

NUMBER OF CLAIMS: 21 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 51 Drawing Figure(s); 28 Drawing Page(s)

3363 LINE COUNT:

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

Systems and methods for detecting molecular binding events and other environmental effects using the unique dielectric properties of the bound molecular structure or structures are presented. A molecular binding layer is coupled along the surface of a signal path. A test signal is propagated along the signal path, whereby the test signal rouples to the molecular binding layer, and in response, exhibits a signal response.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5

ACCESSION NUMBER: 2002:51503 CAPLUS

DOCUMENT NUMBER: 136:101258

136:101258 Chromatographic **purification** of human TITLE:

sulfhydryl-protected recombinant troponin I

INVENTOR(s): Comm, Gregory; Reardon, Brian; Zeng, Xiangang; Zhang,

Chenming

PATENT ASSIGNEE(S): Diosynth ETF, Inc., USA SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent English LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

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     WO 2002004512 A2 20020117
WC 2002004512 A3 20020516
                                           WO .:001-US21817 20010710
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CE, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, HR, HU,
              ID, IL, IN, IS, JP, KE, KG, KP, KR, KS, LC, LK, LR, LS, LT, LU,
             LV, MA, MD, MG, MK, MM, MW, MX, MC, NO, MZ, PL, PT, RO, RU, SD,
             SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,
             3A, 3W, AM, AS, BY, KG, KS, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, ME, SD, SL, SE, TE, UG, EW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 2002064835 AT 20020530 US 2001-903398 20010710 US 2002055145 AT 20020509 US 2001-908619 20011130 ATTY APPLN. INFO:: US 2006-217069P P 200000710
PRIORITY APPLN. INFO.:
                                         US .:001-903398 Al .:20010710
AB
     The invention is directed to methods for purifying troponin I,
     particularly recombinant troponin I produced in a bacterial
     expression system. Recombinant troponin I can be advantageously
     purified after reversibly protecting the free sulfhydryl
     groups, e.g. by forming sulfates. In a specific example,
     troponin I reacted with sodium tetrathionate yielded sulfitolyzed
     troponin I, which was purified by chromatog, on an anion
     exchanger, followed by hydrophobic interaction chromatog. Facile
     deprotection of the sulfhydryl groups yields a highly
     purified product ready for refolding.
L33 ANSWER 6 OF 41 USPATFULL
                        0000:149099 USPATFULL
ACCESSION NUMBER:
                         Death domain-containing receptor polynucleotides,
TITLE:
                        polypeptides, and antibodies
INVENTOR(S):
                        Ni, Jian, Germantown, MD, UNITED STATES
                         Ruben, Steven M., Olney, MD, UNITED STATES
                            NUMBER KIND DATE
                         PATENT INFORMATION: US 2002077458 A1 20020620 APPLICATION INFO.: US 2001-835788 A1 20010417 (9)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US28666, filed
                        on 17 Oct 2000, UNKNOWN
                              NUMBER DATE
                        PRIORITY INFORMATION: US 1999-159585P 19991018 (60)
                 US L II
Utility
APPLICATION
TOWN GENOME
                       US 1999-167246P 19991124 (60)
DOCUMENT TYPE:
FILE SEGMENT:
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC. 9410 KEY WEST AVENUE,
                       FOCKVILLE, MD, 20850
NUMBER OF CLAIMS:
                        ...2
EXEMPLARY CLAIM:
LINE COUNT:
                        14143
       The present invention relates to novel human DDCR polypeptides and
ΑЗ
       isolated nucleic acids containing the coding regions of the genes
       encoding such polypeptides. Also provided are vectors, host cells,
       antibodies, and recombinant methods for producing human DDCR
       polypertides. The invention further relates to diagnostic and
       therapeutic methods useful for diagnosing and treating disorders related
       to these novel human DDCR polypeptides.
```

L33 ANSWER 7 OF 41 USPATFULL

ACCESSION NUMBER: 0000:149131 USPATFULL TITLE: .8 human secreted proteins

INVENTOR(s): Ruben, Steven M., Olney, MD, UNITED STATES

Rosen, Craig A., Laytonsville, MD, UNITED STATES Li, Yi, Sunnyvale, CA, UNITED STATES Zeng, Zhizhen, Lansdale, PA, UNITED STATES Kyaw, Hla, Frederick, MD, UNITED STATES Fischer, Carrie L., Burke, VA, UNITED STATES Li, Haodong, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES Gentz, Reiner L., Rockville, MD, UNITED STATES Wei, Ying-Fei, Berkeley, CA, UNITED STATES Moore, Paul A., Germantown, MD, UNITED STATES Young, Paul E., Gaithersburg, MD, UNITED STATES Greene, John M., Gaithersburg, MD, UNITED STATES Ferrie, Ann M., Tewksbury, MA, UNITED STATES

NUMBER	KIND	DATE			
2002077287	Λ1	20020620			

PATENT INFORMATION: APPLICATION INFO.:

US 2002077287 US 2002077287 A1 20020620 US 2001-852659 A1 20010511 (9)

RELATED APPLN. INFO.:

Continuation in-part of Ser. No. US 1998-152060, filed

on 11 Sep 1948, UNKNOWN

DOCUMENT TYPE: FILE SEGMENT: Utility APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: NUMBER OF THE EXEMPLARY CLAIM:

23 1 17779

LINE COUNT:

AΒ

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic

methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these nevel human secreted proteins.

L33 ANSWER 8 OF 41 USPATFULL

ACCESSION NUMBER:

.0001:149114 USPATFULL

TITLE:

Nucleic acids, proteins, and antibodies

INVENTOR(S):

Fosen, Craig A., Laytonsville, MD, UNITED STATES Puben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002077270	Al	20020620	
APPLICATION INFO.:	US 2001-764848	A1.	.0010117	(9)
	NUMBER	DA	TE	

PRIORITY INFORMATION:

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US .:000-179065P	.:0000131	(*,(1)
U3 P000=180603P	.:00000::04	(Fill)
US 2000-214886P	.:0000528	(+hD)
US 2000-217487P	.10000711	(∻⊓)
US 2000-225758P	20000814	$(\mathbf{r}_i())$
U3 (0)0-220963P	20000726	$(+i\hat{\Omega})$
U3 .0000-217496P	.:00000711	$(F_i \cap)$
U3 1000-125447P	.:00000814	(+.0)
UB(ii)(i=. 180 90)P	.:0000714	(+.67)
U3 .000 2257579	.:00000814	(+0)
U.C. (0)0 (1+8+8P	.:00000822	(r (1)
U.S., (m)u-11.647P	. 0000707	(→ t·)
U3 .000-1252b7P	.:0000814	(+ [1]
US 2000-116880P	20000707	(r f1)
US 2000-225270P	.:00000814	(⊾⊡)

US 2000-251869P .:0001238 (60) 20000927 (60) US 2000-235834P US .:000-:34274P 200009.11 (60) US 2000-234.23P 20000921 (60) US 2000-1138924P 20000830 (60) .00000814 (60) US 2000-22451MP 20000929 (60) US 2000-236369P 30000814 (ნმ) US 2000-224519P 200007.:6 (60) US 2000-220964P US 2000-241809P 20001020 (60) US 2000-249299P 20001117 (60) US 2000-236327P 20000939 (60) US 2000-041785P 20001020 (60) US 2000-.:44617P 20001101 (60) 20000814 (60) US 2000-325268P US 2000-236368P 20000929 (60) US 2000-351856P 20001208 (60) US 2000-251868P 20001208 (60) US 2000-229344P 200009901 (60) US 2000-234997P 20000925 (60) US 2000-229343P 20000901 (60) 20000901 (ნ0) US 2000-229345P 20000901 (60) US 2000-229287P US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60) 20000905 (60) US 2000-236370P 20000929 (60) US 3000-336802P 20001002 (60) US 2000-237037P 20001000 (60) US 2000-237040P 20001002 (60) 20001020 (60) US 2000-240960P US 2000-239935P 20001013 (60)

DOCUMENT TYPE: FILE SEGMENT:

Utility APPLICATION

LEGAL REPRESENTATIVE:

HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM:

24 1

LINE COUNT:

20057

The present invention relates to novel proteins. More specifically, AB isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and untikedies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypertides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

L33 ANSWER 9 OF 41 USPATFULL

ACCESSION NUMBER:

0000:148+14 USPATEULL

TITLE:

18 human secreted proteins

INVENTOR(S):

Ruben, Steven M., Olnev, MD, UNITED STATES

Rosen, Craig A., Laytonsville, MD, UNITED STATES

Li, Yi, Sunnyvale, CA, UNITED STATES

Send, ShiShen, Lansdale, PA, UNITED STATES Kyaw, Hla, Frederick, MD, UNITED STATES

Fischer, Carrie L., Burke, VA, UNITED STATES Li, Haodong, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES Gentz, Reiner L., Rockville, MD, UNITED STATES Wei, Ying-Fei, Berkeley, CA, UNITED STATES Moore, Paul A., Germantown, MD, UNITED STATES Young, Paul E., Gaithersburg, MD, UNITED STATES Greene, John M., Gaithersburg, MD, UNITED STATES Ferrie, Ann M., Painted Post, NY, UNITED STATES

	NUMBER	KINI)	DATE	
PATENT INFORMATION:	US 2002076756	Al	20020620	
APPLICATION INFO .:	US 2001-853161	A.	20010511	(9)

NUMBER DATE

______ PRIORITY INFORMATION: US 2001-265583P 20010202 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: EMEMPLARY CLAIM: 1 LINE COUNT: 17788

2.3

AB

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapoutic methods useful for dragnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

L33 ANSWER 10 OF 41 USPATFULL

ACCESSION NUMBER: 2007:141609 USPATFULL

TITLE:

Transferrin polynucleotides, polypeptides, and

antibodies

INVENTOR(S):

Ruben, Steven M., Olney, MD, UNITED STATES Shi, Yanggu, Gaithersburg, MD, UNITED STATES

NUMBER	KIND	DATE
บร:(คญา)7.:59ธ	Al	.:0020613
115 5051 501150	* 1	

PATENT INFOFMATION: APPLICATION INFO.:

US 2001-891126 A1 20010626 (9) RELATED APPLN. INFO.: Continuation in part of Ser. No. WO 2000-US34769, filed

on 21 Dec 2000, UNKNOWN

NUMBER										D	Α	Т	E							
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PRIORITY INFORMATION: U.S. 1949-171505P 199912.3 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

FOCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM: LINE COUNT: 1.2048

The present invention relates to novel human transferrin polypeptides and isplated nucleic acids containing the soding regions of the genes encoding such polypertides. Also provided are vectors, host cells, artibodies, and recombinant methods for producing human transferrin polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human transferrin polypeptides.

L33 ANSWER 11 OF 41 USPATFULL

ACCESSION NUMBER: 2002:133469 USPATFULL

TITLE:

Serine protease polynucleotides, polypeptides, and

INVENTOR(S):

Shi, Yanggu, Gaithersburg, MD, UNITED STATES Ruben, Steven M., Olney, MD, UNITED STATES Ni, Jian, Germantown, MD, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US 2002068320 A1 20020606 APPLICATION INFO:: US 2001-804156 A1 20010313 (9)

NUMBER DATE

PRIORITY INFORMATION: US 2000-189025P 20000314 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

HOCKVILLE, MD, 20850

NUMBER OF CLAIMS: EMEMPLARY CLAIM: 1
LINE COUNT: 13

22

LINE COUNT:

13119

The present invention relates to novel human serine protease polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human serine protease polypeptides. The invention further relates to diagnostic and therapeutic methods useful for dragnosing and treating disorders related to these novel human serine protease polypeptides.

L33 ANSWER 12 OF 41 USPATFULL

ACCESSION NUMBER: 1000:116703 USPATFULL

TITLE:

Immunoglobulin superfamily polynucleotides,

polypeptides, and antibodies

INVENTOF(3):

Young, Paul E., Gaithersburg, MD, UNITED STATES

Mi, Jain, Pockville, MD, UNITED STATES Ruben, Steven M., Olney, MD, UNITED STATES Shi, Yanqqu, Gaithersburg, MD, UNITED STATES

NUMBER KIND DATE

FATENT INFORMATION:

US 1001069110 A1 20020530 US 1001-799514 A1 20010307 (9)

APPLICATION INFO .:

RELATED APPIN. INFO.: Continuation-in-part of Mer. No. WO 2000-US23662, filed

on 29 Aug 2000, UNKNOWN

NUMBER DATE

PRIORITY IMFORMATION: US 1999-15.248P 19990003 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC. 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: 22

1

1.24 : 7

EKEMPLARY CLAIM: LINE COUNT:

The present invention relates to novel human Iq like polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, artibodies, and recombinant methods for producing human Ig-like polypeptides. The invention further relates to diagnostic and

therapeutic methods useful for diagnosing and treating disorders related to these novel human Iq-like polypeptides.

L33 ANSWER 13 OF 41 USPATFULL

ACCESSION NUMBER: 2002:126332 USPATFULL

Human protein tyrosine phosphatase polynucleotides, TITLE:

polypeptides, and antibodies

Shi, Yanggu, Gaithersburg, MD, UNITED STATES INVENTOR(S):

Ruben, Steven M., Olney, MD, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US .0002064844 A1 .00020530 APPLICATION INFO.: US .0001-906779 A1 .00010718 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ger. No. WO 2001-US1563, filed

on 17 Jan 2001, UNKNOWN

NUMBER DATE

PRIORITY INFORMATION: US 2000-176306P 20000118 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLAFY CLAIM: 1 12129 LINE COUNT:

The present invention relates to novel human PTPase polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human FTPase polypeptides. The invention further relates to diagnostic and

therapeutic methods useful for diagnosing and treating disorders related to these novel human PTPase polypeptides.

L33 ANSWER 14 OF 41 USPATFULL

ACCESSION NUMBER: 2002:126317 USFATFULL

TITLE: Human tumor necrosis factor delta and epsilon Yu, Guo-Liang, Berkeley, CA, UNITED STATES INVENTOF(S):

Ni, Jian, Germantown, MD, UNITED STATES

Gentz, Reiner L., Rockville, MD, UNITED STATES Dillon, Patrick J., Carlshad, CA, UNITED STATES

Human Genome Sciences, Inc., Rockville, MD, UNITED PATENT ASSIGNEE(S):

STATES, 20850 (U.S. corporation)

NUMBER KIND DATE US 1001064829 A1 110020530 US 1001-879919 A1 110010614 (9) PATENT INFOFMATION:

APPLICATION INFO.: RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-815783, filed

on 12 Mar 1997, PENDING

		NUMBER	DATE	
PRIORITY	INFORMATION:	U.i 1996-168;2P	19360414	(· (· ())
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		U.i . 00:-176243P	.:0010316	(E ())
		U.i . ()())-1 54375P	.:0001213	(P. (1)
		U.; . ((0) -: 41952P	20001023	(±0)
		UJ 2000-211537P	20000615	(60)
DOCUMENT	TYPE:	Utility		
FILE SEGN	MENT:	APPLICATION		

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

HOCKVILLE, MD, 20850

NUMBER OF CLAIMS: T 1 EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: | 11 Drawing Page(s)

LINE COUNT: 13531

The invention relates to human TNF delta and TNF epsilon polypeptides, polynucleotides encoding the polypeptides, methods for producing the polypeptides, in particular by expressing the polynucleotides, and agonists and antagonists of the polypeptides. The invention further relates to methods for utilizing such polynucleotides, polypeptides, agonists and antagonists for applications, which relate, in part, to research, diagnostic and clinical arts.

L33 ANSWER 15 OF 41 USPATFULL

2002:126314 USFATFULL ACCESSION NUMBER:

Cytokine receptor-like polynucleotides, polypeptides, TITLE:

and antibodies

Ruben, Steven M., Olney, MD, UNITED STATES INVENTOR(S):

Ni, Jian, Germantown, MD, UNITED STATES

Young, Paul E., Gaithersburg, MD, UNITED STATES

Shi, Yanggu, Gaithersburg, MD, UNITED STATES

	NUMBER	KINL	DATE
U.S	2002064826	Al	20020530

PATENT INFORMATION: US 2002064826 A1 20020530 APPLICATION INFO.: US 2001-874069 A1 20010606 (9)

RELATED APPLN. INFO.: Continuation in part of Ser. No. WO 2000-US32525, filed

on 30 Nov 2000, UNKNOWN

NUMBER DATE

PRIORITY INFORMATION: US 1999 168621P 19991203 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

FOCKVILLE, MD, 20850

NUMBER OF CLAIMS:

3 3 42 43

EXEMPLARY CLAIM:

1

LINE COUNT:

12089

The present invention relates to novel human cytokine receptor-like polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human cytokine receptor-like polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human cytokine receptor-like polypeptides.

L33 ANSWER 16 OF 41 USPATFULL

ACCESSION NUMBER: D002:126306 USFATFULL

TITLE:

ful human secreted proteins

INVENTOR(S):

Ni, Jian, Germantown, MD, UNITED STATES

Haker, Kevin P., Darnestown, MD, UNITED STATES Firse, Charles E., North Potomac, MD, UNITED STATES

Fiscella, Michele, Bethe.da, MD, UNITED STATES Komatsoulis, George A., Jilver Spring, MD, UNITED

Ersen, Craig A., Laytonsville, MD, UNITED STATES Support, Daniel E., Centreville, VA, UNITED STATES Young, Faul E., Gaithershurg, MD, UNITED STATES Finer, Reinhard, Gaithersburg, MD, UNITED STATES Luan, D. Roxanne, Bethesda, MD, UNITED STATES Olsen, Henrik S., Gaithersburg, MD, UNITED STATES

LaFleur, David W., Washington, DC, UNITED STATES Moore, Paul A., Germantown, MD, UNITED STATES Shi, Yanggu, Gaithersburg, MD, UNITED STATES Wei, Ping, Brookeville, MD, UNITED STATES Florence, Kimberly A., Rockville, MD, UNITED STATES

NUMBER KIND DATE US 2002064818 A1 20020530 US 2001-789561 A1 20010222 (9) PATENT INFORMATION: APPLICATION INFO.:

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US24008, filed

on 31 Aug 2000, UNKNOWN

NUMBER DATE _______

PRIORITY INFORMATION: US 1999-152317P 19990903 (60) US 1999-152315P 19990903 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
LINE COUNT: 24F 24623

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for dragnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 17 OF 41 USPATFULL

ACCESSION NUMBER: 2002:119538 USPATFULL

Nucleic acids, proteins, and antibodies TITLE:

Posen, Craig A., Laytonsville, MD, UNITED STATES INVENTOR(S):

Ruben, Steven M., Olney, MD, UNITED STATES Barash, Steven C., Rockville, MD, UNITED STATES

NUMBER KIND DATE ______

PATENT INFORMATION: US 0002061521 A1 00000523 APPLICATION INFO.: US 0001-764869 A1 00010117 (9)

NUMBER DATE

PRIGRITY INFORMATION: US 2000-179065P 20000131 (+0)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC. 9410 KEY WEST AVENUE,

ECCKVILLE, MD, 20850

NUMBER OF SLAIMS: 74
EXEMPLARY SLAIM: 1
LINE COUNT: 773+7

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel cardiovascular system related polynuclectides and the polypeptides encoded by these polynuclectides herein collectively known as "cardiovascular system antigens," and the use of such cardiovascular system antigens for detecting disorders of the pardicvascular system, particularly the presence of cancer of cardiovascular system tissues and cancer metastases. More specifically, isolated cardiovascular system associated nucleic acid molecules are

provided encoding novel cardievascular system associated polypeptides. Novel cardiovascular system polypeptides and antibodies that bind to these polymeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human cardiovascular system associated polynucleotides and/or polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the cardiovascular system, including cancer of cardiovascular system tissues, and therageutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting the production and function of the polypeptides of the present invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 18 OF 41 USPATFULL

ACCESSION NUMBER: 2002:105937 USPATFULL

Major intrinsic protein (MIP) like polynucleotides, TITLE:

polypeptides, and antibodies

Ruben, Steven A., Olney, MD, UNITED STATES INVENTOR(S):

Ni, Jian, Germantown, MD, UNITED STATES

PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD (U.S.

corporation)

NUMBER KIND DATE ______ PATENT INFORMATION: US 2002055142 A1 20020509 APPLICATION INFO.: US 2001-862419 A1 20010523 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US31919, filed

on 21 Nov 2000, UNKNOWN

NUMBER DATE ______

PRIORITY INFORMATION: US 1999-167247F 19991124 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: DE EXEMPLAFY CLAIM: 1 11747

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human MIP-like polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, ant:bodies, and recombinant methods for producing human MIP-like

polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related

to these novel human MIP-like polypeptides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 19 OF 41 USPATFULL

ACCESSION NUMBER: .:00.::99088 USPATFULL

Fringle domain-containing polynucleotides, TITLE:

polypeptides, and antibodies

INVENTOR(S): Ni, Jian, Germantown, MD, UNITED STATES

> Moore, Paul A., Germantown, MD, UNITED STATES Ruben, Steven M., Clney, MD, UNITED STATES

NUMBER FIND DATE ______ _____ PATENT INFORMATION: US 200: 051984 Al 20020502 APPLICATION INFO.:

US 2001-848288 A1 20010504 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US30564, filed

un H Nov 2000, UNKNOWN

NUMBER DATE

PRIORITY INFORMATION:

US 1999-164853P 19991112 (60)

DOCUMENT TYPE: Utility FILE SEGMENT:

APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

FOCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM:

l

LINE COUNT:

12041

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human KDC polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human KDC polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human KDC polypeptides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 20 OF 41 USPATFULL

ACCESSION NUMBER: 2002:85190 USPATFULL

TITLE:

Nucleuc acids, proteins, and antibodies

INVENTOR(S):

Rosen, Craig A., Laytonsville, MD, UNITED STATES

Rubin, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

PATENT INFORMATION: APPLICATION INFO.:

U3 2002045030 A1 00020418 U3 2001-908711 A1 00010720 (9)

NUMBER KIND DATE

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2001-US1360, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. US 2001-764867, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1344, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. US 2001-764892, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1345, filed on 17 Can 2001, UNKNOWN Continuation in-part of Ser. No. US 2001-764888, filed on 17 Jan 2001, UNKNOWN Continuation-in part of Ser. No. WO 2001-US1329, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. US 2001-764905, filed on 17 Jan 2001, UNKNOWN Continuation-in part of Ser. No. US 2001-764891, filed in 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. WO 2001-US1334, filed on 17 Jan 2001, UNKNOWN Continuation-in part of Ser. No. US : 001-764809, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. We 2001-US1340, filed on 17 Jan 2001, UNKNOWN Montinuation-in-part of Ser. No. US 1001-764874, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. WG 2001-US1334, filed on 17 Jan 2001, UNRIGWN Continuation-in-part of Ser. No. US 2001-7648 €, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. 72 . WC : 001-US1320, filed on 17 Jan : 001, UNROWEWN Continuation-in-part of Ser. No. US 2001-764803, filed on 17 Jan . 001, UNKNIWN Continuation in-part of Ser. No. US 2001-764902, filed on 17 Jan 2001, UNRHOWN Continuation-in-part of Ser. No. W0 2001-US12:9, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser.

No. US 2001-764870, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1348, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764882, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. WO 2001-US1347, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764896, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1307, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764864, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1341, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764856, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1336, filed on 17 Jan 2001, UNKNOWN Continuation in-part of Ser. No. US 2001-764868, filed on 17 Jan 2001, UNKNOWN Continuation un-part of Ser. No. WO 2001-US1312, filed on 17 Jan 2001, UNKNOWN

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PRIORITY INFORMATION:

US 2000-179065P 20000131 (60) US 2000-180628P 20000204 (60) US 2000-251868P 20001208 (60) US 2000-232398P 20000914 (60) US 2000-249300P 20001117 (60) US 2000-251990P 20001208 (60) US 2000-250160P 20001201 (60) ___ეტტტინი7 (გტ) US 2000-209467P US 2000-179065P -20000131 (60)US 2000-180638P 20000204 (60) US 3000-314886P 20000628 (40) US 2000-217487P 20000711 (60) US 2000-225758P 20000814 (60) US 2000-220963P 20000736 (60) US 2000-217496P 20000711 (60) US 2000-235447P 20000814 (60) US 2000-218290P 20000714 (60)

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US 2000-225757P

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US .0000-205515P 20000519 (60)
US .0001-259678P 20010105 (60)

DOCUMENT TYPE:

FILE SEGMENT:

Utility APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

EOCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM:

1

244.2 LINE COUNT:

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel ovarian related polynuclectides and the polypeptides encoded by these polynucleotides herein collectively known as "ovarian antigens," and the use of such ovarian antigens for detecting disorders of the ovaries and/or kreast, particularly the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian associated nucleic acid molecules are provided encoding novel ovarian associated polypeptides. Novel ovarian polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human ovarian associated polynucleatides and/or polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/o: r:ognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agenists and antagonists of polynucleatides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting the production and function of the polypeptides of the present invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 21 OF 41 USPATFULL

ACCESSION NUMBER: .00.:85170 USPATFULL

TITLE: INVENTOR(S:: Neuropeptide like polypeptide zpep17

Sheppard, Faull O., Granite Falls, WA, UNITED STATES

Bishor, Paul D., Fall City, WA, UNITED STATES

NUMBER KIND DATE -----PATENT INFOFMATION: US 2002045210 A1 20020418 APPLICATION INFO.: US 2001-776795 A1 20010205 (9)

NUMBER DATE ___ .____

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Jennifer K. Johnson, TymoGenetics, Inc, 1201 Eastlake

Avenue East, Seattle, WA, 98102 NUMBER OF CLAIMS: 36 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 12 Drawing Page(s)
LINE COUNT: 4459

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to polynumleotide and polypeptide molecules for zpep17, a novel secreted protein. The polynucleotides encoding zpep17, may, for example, be used to identify a region of the genome associated with human disease states. The present invention also includes methods for producing the protein, uses therefor and antibodies thereto.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 22 OF 41 USPATFULL

ACCESSION NUMBER: 2002:78729 USPATFULL

TITLE: Nucleic acids, proteins, and antibodies

INVENTOR(S): Fosen, Craig A., Laytonsville, MD, UNITED STATES

Euben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

	NUMBEF:	KINI	I)ATE	
PATENT INFORMATION:	US 2002042386	Al	20020411	
APPLICATION INFO.:	US 2001-764870	Al	20010117	(9)

______ PRIORITY INFORMATION: US 2000-179065P .::00000131 (60)

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US 2000-180628P	30000204	(+,(+)
US 2000-214896P	20000628	(£0)
US 2000-217487P	20000711	(60)
US 2000-225758P	20000814	(r:0)
US 1000 1110963P	20000726	(+,0)
US 2000-217496P	20000711	(+i-U)
VS 2000-205447P	20000314	(40)
US 2000-218290P	20000714	(rd))
US 2000-225757P	.100000814	(raQ)
US 2000-206868P	200000822	(60)
US 200016647P	20000707	(夏集)
US 2000-005067P	20000814	(60)
US 2000-216880P	.:00000707	(+j0)
US 2000-2.5.70P	.:00000814	(r.0)
US 2000-251869P	10001208	(+,()
US .1000135834P	. 000003.:7	(+.(:)
US 2000-134274P	. 000009. 1	$(F \oplus)$
US 2000-234223P	.:000003.1	(E C)
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US .1000114518P	.10000314	(+ (÷)
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US 2000 49299P	.:0001117	(+,(+)
US 2000 - 36327P	20000329	(60)
	– .	

NUMBER DATE

US 2000-244617P 20001101 (60)

DOCUMENT TYPE: FILE SEGMENT:

Utility APPLICATION

LEGAL REPRESENTATIVE:

HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM:

1 0.3133

24

LINE COUNT:

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for dragnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhabiting or enhancing the production and function of the polyrertides of the present invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 23 OF 41 USEATFULL

2000:78715 USPATFULL ACCESSION NUMBER:

TITLE:

Starmiodalcin polynucleotides, polypeptides, and

methods based thereon

INVENTOR(S::

Olsen, Henrik S., Gaithersburg, MD, UNITED STATES

Shang, Ke-Shou, Brussels, BELGIUM Lindsberg, Perttu, Helsinki, FINLAND Tatlısumak, Turgut, Helsinki, FINLAND

Kaste, Markku, Vantaa, FINLANI:

Andersson, Leif C., Helsinki, EINLAND

PATENT ASSIGNEE(S):

Human Genome Sciences, Inc., Rockville, MD, UNITED

STATES, 1985) (U.S. corporation)

	NUMEER	KINL	DATE	
PATENT INFORMATION:	US .:002042:72	Αl	. 01120411	
APPLICATION INFO.:	បន 2001-840989	Al	200104.25	(9)

RELATED APPLN. INFO.: Continuation in-part of Ser. No. WO 2000-US29432, filed

on 25 Oct 2000, UNKNOWN

NUMBER DATE

PRIORITY INFORMATION:

US 1999-161740P 19991027 (60)

DOCUMENT TYPE:

Utility

FILE SEGMENT:

APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

FOCKVILLE, MD, 20850

NUMBER OF CLAIMS:

47

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Page(s)

LINE COUNT:

9559

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to human stanniocalcin (STC)

polynucleotides, polypeptides, and other Stanniocalcin compositions and to novel methods based thereon. In a specific embodiment, the Stanniocalcin compositions of the invention are used to treat or protect neural cells. Moreover, the present invention relates to vectors, host cells, antibodies, and recombinant and synthetic methods for producing the Stanniocalcin compositions of the invention. Also provided are diagnostic methods for detecting or prognosing diseases, disorders, damage or injury, associated with alterations of the Stanniocalcin compositions of the invention, and to therapeutic methods for treating such diseases, disorders, damage or injury.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 24 OF 41 USPATFULL

ACCESSION NUMBER:

2000:78442 USPATFULL

TITLE:

Nucleic acids, proteins, and antibodies

INVENTOR(S):

Posen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

Barash, Steven C., Rockville, MD, UNITED STATES

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	NUMBER	K IMD	DATE	
PATENT INFORMATION:	US 2002042096	Αl	20020411	
APPLICATION INFO.:	US 2001-764887	Al.	20010117	(9)

MIIMBED

PRIORITY INFORMATION:

	NUMBER	DATE	
US	. 2000-179065P	20000131	(60)
US	::0000-1805::8P	200000204	(60)
US	2000-214886P	30000638	(GD)
US	2000-217487P	.:0000711	(+O)
US	2000-225758P	20000814	(r.O)
US	2000-220963P	20000726	$(\vec{r}_i(t)$
US	2000-217496P	20000711	(t. ())
US	2000-225447P	20000314	(១០)
US	_0000-D18290P	20000714	(Ē Ū)
US	2000-225757P	20000314	(E)
US	10000-1156868P	20000322	(ED)
US	2000-216647P	20000707	(←Ū)
US	1000-1155067P	200000814	(+h())
US	2000-116880P	.:0000707	(•, ·())
EU	.1000-225270P	200000814	(+0)
US	2000-251869P	.:0001298	(÷0)
US	2000-235×34P	.300009.37	(r · Û)
US	. QUQ 34174P	20000921	(+0)
US	.100034223P	150000031	$(+\bigcirc)$
U.S	.1000-218924P	.:00000830	$(r \oplus)$
US	2000-114513P	.20000814	(50)
US	.:00036369P	.10000929	(50)
US	Z000-ZZ4519P	20000814	(60)

US ::000-220964P 20000726 (60) 20001029 (60) US 2000-041809P 20001117 (60) US .000-249299P 20000929 (60) US [0000-136327P] .:00010.00 (60) US .:000-:41785P 20001101 (60) US 2000-244617P .:00000814 (60) US J000-J35268P US 2000-236368P 20000939 (60) US 0000-251856P 00001208 (60) US 7000-151868P 20001208 (60) US 2000-009344P 20000301 (60) US .:000-234997P 20000925 (60) US 0000-029343P 20000901 (60) US 2000-029345P 20000901 (60) US 2000-039287P 20000901 (60) US 2000-029513P 200000905 (60) US 2000-231413P 20000908 (60) US 2000-319509P 200000905 (60) US 2000-336367P 200000929 (60) 20001002 (60) US 2000-237039P 20001002 (60) US 2000-237038F US 2000-036370F 20000929 (60) US 2000-236802P 20001002 (60) US 2000-236802P US 2000-237037P US 2000-237040P US 2000-240960P 20001002 (60) 20001002 (60) 20001020 (60) US 2000-239935P 20001013 (60)

DOCUMENT TYPE:

FILE SEGMENT:

Utility
APPLICATION

LEGAL REPRESENTATIVE:

HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: 24 EXEMPLARY CLAIM: 1

LINE COUNT:

19533

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel liver related polynucleotides and the polypeptides encoded by these polynucleotides herein collectively known as "liver antigens," and the use of such liver antigens for detecting disorders of the laver, particularly the presence of cancer of liver and cancer metastases. More specifically, isolated liver associated nucleic acid molecules are provided encoding novel liver associated polypeptides. Novel liver polypeptides and antibodies that bind to these polypertides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human liver associated polynucleotides and/or polypeptides. The invention further relates to diagnosti: and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the liver, including cancer of liver tissues, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and untagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhabiting the production and function of the polypeptides of the present invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 25 OF 41 USPATFULL

ACCESSION NUMBER: 0002:668** USPATEULL

TITLE: ABC transport polynucleotides, polypeptides, and

antikodies

INVENTOR(S): Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES

Moore, Paul A., Germantown, MD, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US 2002037549 A1 .00020328 APPLICATION INFO.: US 2001-767870 A1 .00010124 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US19736, filed

on 20 Jul 2000, UNKNOWN

DATE NUMBER __________

PRIORITY INFORMATION:

US 1999-145.:15P 19990723 (60) US 1999-149445P 19990818 (60) US 1999-164730P 19991112 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

FOCKVILLE, MD, 20850

NUMBER OF CLAIMS: 22 EMEMPLARY CLAIM: 1 LINE COUNT: 12219

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human ABC transport polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human ABC transport polypertides. The invention further relates to diagnostic and

therapeutic methods useful for diagnosing and treating disorders related

to these novel human ABC transport polypeptides.

CAS INTEMING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 20 OF 41 USPATFULL

ACCESSION NUMBER: 2002:66870 USPATFULL

The belike polynucleotides, polypeptides, and antibodies

Ruben, Steven M., Olney, MD, UNITED STATES INVENTOR(S):

Shi, Yanggu, Gaithersburg, MD, UNITED STATES

NUMBER KIND DATE ______

PATENT INFORMATION: US 2002037523 Al 20020328 APPLICATION INFO.: US 2001-875016 Al 20010607 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US33134, filed

on 7 Dec 2000, UNKNOWN

NUMBER DATE

PRIORITY INFORMATION: US 1999-169838P 19991.09 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM: LINE COUNT: 1 11587

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human IL-6-like polypeptides and isolated nucleic acids containing the coding regions of the genes enording such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human IL 6-like polypeptides. The invention further relates to diagnostic and

therapoutic methods useful for diagnosing and treating disorders related to these novel human IL-6 like polypeptides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 27 OF 41 USPATFULL

ACCESSION NUMBER: 2002:48270 USPATFULL

TITLE: INVENTOR(S): Methods for analyzing protein binding events Hefti, John J., San Francisco, CA, UNITED STATES

NUMBER KIND DATE _____

PATENT INFORMATION: APPLICATION INFO .: RELATED AFPLN. INFO.:

US 2002028461 A1 20020307 US 2001-923474 A1 20010806 (9) Continuation of Ser. No. US 1999-365580, filed on 2 Aug 1999, GRANTED, Pat. No. US 6287874 Continuation-in-part

of Ser. No. US 1999-243134, filed on 1 Feb 1999,

PENDING

NUMBER DATE

: NOITAMACHNI YTINOIRI

US 1998-73445P 19980202 (60) US 1999-134740P 19990518 (60)

DOCUMENT TYPE: FILE SEGMENT:

Utility APPLICATION

LEGAL REPRESENTATIVE: Richard L. Neeley, Clifford B. Perry, Signature BioScience, Inc., 21124 Cabot Boulevard, Hayward, CA,

94545 (1130)

NUMBER OF CLAIMS: EMEMPLARY CLAIM: 45 1

NUMBER OF DEAWINGS: 37 Drawing Page(s) LINE COUNT:

4041

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides a variety of methods of analyzing protein binding events using a system capable of directly detecting protein/ligand complexes based upon the dielectric properties of the complex. The system can be used in a variety of analyses involving protein binding events, such as screening ligand libraries, characterizing protein binding interactions, and identifying ligands. The system can also be utilized in diverse analytical and diagnostic applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 28 OF 41 USPATFULL

ACCESSION NUMBER: 2002:22131 USPATFULL

TITLE:

18 Human secreted proteins

INVENTOF (S::

Shi, Yanggu, Gaithersburg, MD, UNITED STATES Young, Paul E., Gaithersburg, MD, UNITED STATES Ebmer, Reinhard, Gaithersburg, MD, UNITED STATES Soppet, Daniel R., Centreville, VA, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES

NUMBER KINE DATE

PATENT INFORMATION:

APPLICATION INFO .:

RELATED APPLN. INFO.: dentinuation-in-part of Ser. No. WO 2000-US22350, filed

on 15 Aug 1000, UNENOWN

NUMBER DATE

PETORITY INFORMATION: US 1990-148759P 19990816 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICAT AFFLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC. 3410 KEY WEST AVENUE.

ROCFVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM: LINE COUNT:

.33

1 1811.7

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to novel human secreted proteins and

isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 29 OF 41 USPATFULL

ACCESSION NUMBER: 2000:12261 USPATFULL

Uteroglobin-like polynucleotides, polypeptides, and TITLE:

antibodies

Ni, Jian, Germantown, MD, UNITED STATES INVENTOR(S):

Ruben, Steven M., Olney, MD, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US 2002006640 Al 20020117
APPLICATION INFO:: US 2001-846258 Al 20010502 (9)
RELATED APPLN. INFO:: Continuation-in-part of Ser. No. Wo 2000-US30326, filed

on 3 Nov 2000, UNKNOWN

NUMBER DATE

PRIORITY INFORMATION: US 1999-163395P 19991104 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REFRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850 3: 22 NUMBER OF CLAIMS: EXEMPLARY CLAIM: 1 LINE COUNT: 12076

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human uteroglobin-like

polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human utercylobin-like polypeptides. The invention further relates to

diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human uteroglobin-like polypeptides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 30 OF 41 USPATFULL

ACCESSION NUMBER: 2000:8489 USPATEULL

Fetinoid receptor interacting polynucleotides, TITLE:

polypeptides, and antibodies

Shi, Yanggu, Gaithersburg, MD, UNITED STATES INVENTOR(S::

Auben, Steven M., Olney, MD, UNITED STATES

NUMBER KIND DATE PATENT INFORMATION: US ::002004489 Al ::0020110 APPLICATION INFO:: US ::001-788600 Al ::0010221 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-US22351, filed

ch 15 Aug 2000, UNKNOWN

NUMBER DATE PETORITY INFORMATION: U.: 1949-143757P 19990-16 (60) U.: .0000-139026P 20000314 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC. 9410 KEY WEST AVENUE,

ROCKVILLE, MD, 20850

NUMBER OF CLAIMS: EXEMPLARY CLAIM: LINE COUNT: 11257

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel human RIP polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human RIP polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human FIP polypeptides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANGWER 31 OF 41 USPATFULL

ACCESSION NUMBER: 2002:75196 USPATFULL

TITLE: Bio-assay device and test system for detecting

molecular binding events

INVENTOR(S): Hefti, John, San Francisco, CA, United States

PATENT ASSIGNEE(S): Signature BioScience, Inc., Hayward, CA, United States

(U.S. corporation)

NUMBER KIND DATE _____ PATENT INFORMATION: US 6368795 B1 20020409 APPLICATION INFO:: US 1999-343194 19990201 19990201 (9)

> NUMBER DATE ______

PRIORITY INFORMATION: US 1998-73445P 19980202 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: GRANTED
FRIMARY EXAMINER: Chin, Christopher L.

LEGAL REPRESENTATIVE: Neeley, Richard L., Perry, Clifford B.

NUMBER OF CLAIMS: 13 EXEMPLARY CLAIM: 1

NUMBER OF DEAWINGS: 51 Drawing Figure(s); 28 Drawing Fage(s)

LINE COUNT: 3.253

CAS INDEMING IS AVAILABLE FOR THIS PATENT.

Systems and methods for detecting molecular binding events and other environmental effects using the unique dielectric properties of the bound molecular structure or structures are presented. A molecular binding layer is coupled along the surface of a signal path. A test signal is propagated along the signal path, whereby the test signal couples to the molecular kinding layer, and in response, exhibits a signal response.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 32 OF 41 USPATFULL

ACCESSION NUMBER: 2002:9760 USPATFULL

Method and apparatus for detecting molecular binding TITLE:

events

INVENTOR(s): Hefti, John, San Francisco, CA, United States

FATENT ASSIGNEE(S): Signature BioScience, Inc., Hayward, CA, United States

(U.S. corporation)

NUMBER KIND DATE FATENT INFORMATION: U. 6333468 B1 0.0020115 APPLICATION INFO:: U. 1992-365578 19990802 (9)

FELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-243194, filed

on 1 Feb 1993

NUMBER DATE

US 1998-73445F 19980201 (60) PRIORITY INFORMATION:

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Chin, Christopher L.

LEGAL REPRESENTATIVE: Perry, Clifford B., Neeley, Richard L.

NUMBER OF CLAIMS: 20 EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 51 Drawing Figure(s); 28 Drawing Page(s)

3281 LINE COUNT:

CAS INDEMING IS AVAILABLE FOR THIS PATENT.

Systems and methods are presented for detecting molecular binding events and other environmental effects using the unique dielectric properties of the bound molecular structure or structures. A molecular binding region is coupled along the surface of a signal path. A test signal is propagated along the signal path, whereby the test signal couples to the molecular binding region, and in response, exhibits a signal response.

CAS INDEMING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 33 OF 41 EUROPATFULL COPYRIGHT 2002 WILA

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVEE

786087 EUROPATFULL EW 200209 FS PS ACCESSION NUMBER:

TITLE: POLYPEPTIDE-DENDRIMER COMPLEXES. POLYPEPTID-DENDRIMER KOMPLEME.

COMPLEMES DE POLYPEPTIDES-DENDRIMERES.

INVENTOF(S): SINGH, Pratap, 19111 S.W. 60th Street, Miami, FL 33193,

HS

DADE BEHRING INC., 1717 Deerfield Road, Deerfield, PATENT ASSIGNEE(S):

Illinois 60015, US

PATENT ASSIGNEE NO: 1905941

Helbing, Joerg, Er. Dipl. Chem. et al., Patentanwaelte AGENT:

von Kreisler-Selting-Werner, Postfach 10 22 41, 50462

Koeln, DE

AGENT NUMBER: 80653

OTHER SOURCE: BEPB2002015 EP 0786087 B: 0029

Wila EFS-2002-H09-T2 SOURCE:

DOCUMENT TYPE: Patent

Anmeldung in Englisch; Veroeffentlichung in Englisch LANGUAGE: E AT; E BE; E CH; E DE; E DK; E ES; E FI; E FE; E GB; E DESIGNATED STATES:

GR; R IE; R IT; R LI; R MU; R MC; R NL; R FT; R SE

EFB1 EUROPAEISCHE FATENTSCHRIFT (Internationale FATENT INFO. PUB. TYPE:

Anmeldung)

PATENT INFORMATION:

KIND DATE PATENT NO EF 786087 B1 100000217

'OFFENLEGUNGS' DATE: 19970730

19960809 APPLICATION INFO.: EP 1496-927393 PRIORITY APPLN. INFO.: US 1995-514075 [995081] 960809 INTAKZ RELATED Doct. INFO.: W0 96-US13057 970227 INTENE

WO 9707398 FEFERENCE PAT. INFO.: WO 88:01178 A WO 91 27902 A WO 94-19693 A

WO 95 18641 A

REF. NON-PATENT-LIT.: BIGGONJUGATE CHEMISTRY, vol. 1, no. 5, 1 September 1990,

pages 305-308, Xr000174624 ROBERTS J C ET AL: "USING STARBURST DENDRIMERS AS LINKER MOLECULES TO RADIOLEBEL ANTIBODIES" ABSTRACTS OF PAPERS AMERICAN CHEMICAL SICIETY, vol. 211, no. 1-2, 14 - 28 March 1996, NEW CRLEANS, page BICT 193 XP002 20332 P. SINGH: "Coupling

of multiple proteins to starburst dendrimers."

TITLE (FRENCH):

INVENTOR(S):

PATENT ASSIGNEE(S):

ANSWER 34 OF 41 PCTFULL COPYRIGHT 2002 Univention

ACCESSION NUMBER: 2002036624 PCTFULL ED 20020523 EW 300219
TITLE (ENGLISH): METHODS AND COMPOSITIONS RELATING TO FORTILIN, AN ANTE APOPTOTIC MOLECULE, AND MODULATORS OF FORTILIN PROCEDES ET COMPOSITIONS ASSOCIES À LA FORTILINE, UNE MOLECULE ANTI-APOPTOTIQUE, ET MODULATEURS DE FORTILINE

FUJISE, Kenichi; YEH, Edward

BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM, for all designates States except US; FUJISE, Kenichi, for

US only; YEH, Edward, for US only

SHIBHIMA, Gina, N.

AGENT:

LANGUAGE OF PUBL.: LANGUAGE OF FILING: DOCUMENT TYPE:

PATENT INFORMATION:

English English Patent

NUMBER KINE DATE

WO 0000036624 A2 20020510

DESIGNATED STATES:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CE DE DK DM DE EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JE KE KG KE KE KZ LO LK LE LS LT LU LV MA MD MG MK MN MW MX M2 NO N2 PH PL PT RO RU SD SE SG SI SK SE TU TM TR TT TZ UA UG US UZ VN YU ZA ZW GH GM KE LS MW MZ SD SL SZ TZ UG RW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR BE BU OF OG OI OM GA GN GQ GW ML ME NE SN TD TG

APPLICATION INFO.: WO 0001/US40985 A 20011030 PRIGRITY INFO.: US 0000 60/244,416 20001030

The polypeptide Fortilin (also known as Translationally Controlled Tumour Protein, TCTP) specifically interacts with p53, a tumor suppressor involved in the induction of apoptosis and the normal growth regulation of a cell. Fortilin also specifically binds MCL1 (Myeloid Cell Leukemia 1). Fortilin has the ability to prevent apoptosis, which may be unregulated in hyperproliferative cells. The present invention is directed at compositions and methods involving a Fortilin modulator, which can induce apoptosis, for the prevention, treatment, or diagnosis of hyperproliferative diseases and conditions, including cancer and atherosclerosis. It is directed also at compositions and methods involving Fortilin, which can inhibit apoptosis, for the treatment of diseases and condition characterized by apoptosis, including certain vascular conditions.

ABFF: Le polypeptide fortiline (egalement appele proteine tumorale de regulation de traduction, TCTP) interagit specifiquement avec p53, un suppresseur de tumeur intervenant dans l'induction de l'apoptose et la regulation de la croissance normale d'une cellule. La fortiline se lie aussi specifiquement a McLl (leupemic myelcide 1). La fortiline est capable de prevenir l'anoptose, qui peut être deregles dans des cellules hyperproliferatives. L'invention concerne des compositions et des procedes comprenant un modulateur de fortiline, capable d'induire l'apoptose, pour prevenir, traiter ou diagnostiquer des maladies ou des affections hyperproliferatives, y compris le cancer et l'atherosclerose ; ainsi que des compositions et des procedes comprenant la fortiline, capable d'inhiber l'apoptose, pour traiter des maladies et affections caracterisees par l'apoptose, y compris certaines affections vasculaires.

L33 ANSWER 35 OF 41 USPATFULL

ACCESSION NUMBER: 2001:15.751 USPATFULL

Methods for analyzing protein binding events

INVENTOR(S): Hef:i, John, San Francisco, CA, United States
PATENT ASSIGNEE(S): Signature BicScience, Inc., Hayward, CA, United States

(U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 6287874 B1 20010911 APPLICATION INFO.: US 1999-365580 19990802 19390802 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-243194, filed

on 1 Feb 1999

NUMBER DATE

US 1998-73445P 19980202 (60) US 1999-134740P 19990518 (60) FFIORITY INFORMATION:

DCCUMENT TYPE: Utility
F:LE SEGMENT: GRANTED
PFIMAFY EXAMINEE: Horlick, Kenneth R.
ASSISTANT EXAMINER: Strzelecka, Teresa
LEGAL REPRESENTATIVE: Ausenhus, Scott L., Perry, Clifford B., Neeley, Richard

NUMBER OF CLAIMS: 45
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 44 Drawing Figure(s); 33 Drawing Page(s)
LINE COUNT: 4099

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides a variety of methods of analyzing protein binding events using a system capable of directly detecting protein/ligand complexes based upon the dielectric properties of the complex. The system can be used in a variety of analyses involving protein binding events, such as screening ligand libraries, characterizing protein binding interactions, and identifying ligands. The system can also be utilized in diverse analytical and diagnostic

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 36 OF 41 USPATFULL

applications.

ACCESSION NUMBER: 2000:87731 USPATFULL

TITLE: Methods and compositions for using membrane-penetrating

proteins to carry materials across cell membranes

INVENTOR(S):

INVENTOF(S): Draper, Rockford, Plano, TM, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas Systems,

Austin, TM, United States (U.S. corporation)

NUMBER KIND DATE PATENT INFORMATION: US 6086900 APPLICATION INFO:: US 1998-47148 20000711

19930324 (9)

NUMBER DATE

19970326 (60)

PRIORITY INFORMATION: US 1997-42056P 1997
DOCUMENT TYPE: Utility
File SEGMENT: Granted
PRIMARY EXAMINER: Guzo, David
LEGAL REPRESENTATIVE: Annold, White & Durkee

NUMBER OF CLAIMS: 62 EXEMPLARY CLAIM: 1

NUMBER OF DEAWINGS: 8 Drawing Figure(s); 6 Drawing Page(s) LINE COUNT: 2729

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention provides methods and compositions delivery of agents into the cytoplasm of cells. Particularly, it concerns the use of memberane penetrating toxin proteins to deliver drugs to the cytoplasm of target cells.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L:3 ANSWER 37 OF 41 USPATFULL

ACCESSION NUMBER: 2000:84049 USPATFULL

TITLE: Polypertide: dendrimer complexes

Single, Pratap, Wilmington, DE, United States INVENTOR(S):

Lin, Spencer, Granger, IN, United States

Moll, III, Fred, Pembroke Pines, FL, United States

Dade Behring Inc., Deerfield, IL, United States (U.S. PATENT ASSIGNEE(S):

corporation)

NUMBER KIND DATE

PATENT INFORMATION: APPLICATION INFO.: US 6083708 20000704 US 1995-514075 19950811 (8)

DOCUMENT TYPE: Utility FILE SEGMENT: Granted

PRIMARY EXAMINER: Wortman, Donna C.

LEGAL REPRESENTATIVE: Lundquist, Ronald C, Tymeson, Cynthia G

NUMBER OF CLAIMS: 28 EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 5 Drawing Figure(s); 1 Drawing Page(s)

LINE COUNT: 1674

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

Compositions are disclosed, comprising dendrimers to which a first polypeptide is controllably coupled. Such polypeptide-dendrimer compositions are effective for controllably coupling a second polypeptide to the dendrimer. The first and second polypeptides have separate and distinct defined biological activities, for example, two antibodies with first and second binding specificities or an antibody and an enzymatic label. Such compositions are useful as indicators in specific binding assays, e.g., immunoassays. Methods for sequentially coupling two different polypeptides to a dendrimer to form compositions of the invention also are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANSWER 38 OF 41 MEDLINE

ACCESSION NUMBER: 90060164 MEDLINE DOCUMENT NUMBER: 90060164 PubMed ID: 2584019

The reactivity of sulfhydryl groups of TITLE:

bovine dardiad troponin C.

Fuchs F; Liou Y M; Grabarek Z AUTHOF:

CORFORATE SOURCE: Department of Physiology, University of Pittsburgh School

of Medicine, Pennsylvania 15261.

CONTRACT NUMBER: AR-10551 (NIAMS)

R-37-HL: 05949 (NHLBI)

MOURNAL OF BIOLOGICAL CHEMISTRY, (1989 Dec 5) 264 (34) SOURCE:

20344-9.

Journal code: 2985101R. ISSN: 0021-9258.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

Pricity Journals FILE SEGMENT:

ENTRY MONTH: 199001

ENTRY DATE: Entered STN: 19900328

> Last Updated on STN: 19970103 Entered Medline: 19400108

bovine cardiac troponin C (cTnC) contains 2 cysteine residues, AВ Bys 35 located in the nonfunctional Ca2++Finding loop I and Cys-84 in the Noterminal segment of the central helix. We have studied the reactivity of dys residues in cTno with 5.5'-dithiobis(2-nitrobenzoic acid) (DTNB) and 7 d:ethylamino-3-(4'-male:midylphenyl)-4-methylcoumarin (CPM). The latter summound fluoresces only when reacted with the protein. The reaction with DTNB followed second order kinetics with respect to DTNB, the rate constants being 3.37 scl M-1 and 1.82 scl M-1 in the presence and absence of Ga2+, respectively. These rates are much slower than the rate of reaction with Cys-98 of skeletal TnC (sTnC) or with the urea-denatured cTnC, indicating that both Cys residues are partly buried within the

structure of the protein. The increase in reactivity was induced by binding of Ca2+ to the single low affinity Ca2+ binding site (site II). The fluorescence increase upon reaction of cTnC with CPM in the absence of Call could be fitted with a single exponential equation indicating that both cysteine residues are equally available to the reagent. The reaction in the presence of Ca2+ was hiphasic. Analysis of CNBr fragments of cTnC labeled with CPM under various conditions indicated that in the presence of Cal+ the reactivity of Cys-84 is increased while that of Cys-35 is slightly decreased. This finding is consistent with the model of Herzberg et al. (Herzberg, O., Moult, J., and James, M. N. G. (1986) J. Biol. Chem. 201, 3638-3644) and the data of Ingraham and Hodges (Ingraham, R. H., and Hodges, R. S. (1988) Biochemistry 27, 5891-5898), suggesting that the Call-Induced conformational change in the N-terminal half of TnC involves separation of the helix C from the central helix, thereby increasing the accessibility of Cys-84. The slow overall kinetics, however, indicates that the structure in the vicinity of Cys residues is relatively compact regardless of Call+. We interpret the increase in reactivity towards CPM as consistent with a Call+-induced exposure of a hydrophobic pocket in the vicinity of Cys-84.

L33 AMSWER 39 OF 41 USPATFULL

ACCESSION NUMBER: 86:34211 USPATFULL

Protein kinase enzyme AUT-PK 500 and a radioimmunoassay TITLE:

for detection of neoplasia

INVENTOR(S): Sharma, Rameshwar K., Memphis, TN, United States

PATENT ASSIGNEE(S): The University of Tennessee Research Corp., Knoxville,

TN, United States (U.S. corporation)

NUMBER KIND DATE PATENT INFORMATION: US 4594319 19860610
AFPLICATION INFO:: US 1984-590712 19840319 (6)
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMAFY EXAMINEF: Wiseman, Thomas G.
ASSISTANT EXAMINER: Moskowitz, M.

LEGAL FEPRESENTATIVE: Neuner, George W., Linek, Ernest V.

NUMBER OF CLAIMS: 33 EXEMPLARY CLAIM: 1, 1,6

NUMBER OF DEAWINGS: 10 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 1019

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

This invention is directed to AUT-PK 500, a novel autophosphorylating protein kinase, to the purification and characterization of AUT-PK 500 from $r_{\rm eff}$ adrenocortical carcinoma, to the use of AUT-PK 500 as a marker for neeplasia cells, and to a radioimmunoassay for detecting AUT PK 500 in neoplasia cells.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L33 ANDWER 40 OF 41 MEDLINE

ACCESSION NUMBER: 83135739 MEDLINE

DOCUMENT NUMBER: 83135/33 PubMed ID: 6826548
TITLE: Hydrodynamic properties of bovine cardiac troponin
-I and troponin-T.
AUTHOR: Byers D M; Kay C M
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1983 Mar 10) 258 (5)

2351-4.

Journal code: 2985121R. ISSN: 0021-9258.

PUB. COUNTRY:

United States

Journal; Article; (JOURNAL ARTICLE)

Journal; Article; (JOU LANGUAGE: English FILE SEGMENT: Priority Journals ENTRY MONTH: 198304 ENTRY DATE: Entered STN: 19900318

Last Updated on STN: 19990129 Entered Medline: 19830407

Bovine cardiac troponin-I (TN-I) and troponin-T (TN-T) AΒ have been examined in solution using ultracentrifugation, gel filtration, and viscosity. A new method of purifying TN-T, employing hydroxylapatite chromatography in 6 M urea, is reported. Cardiac TN-T (Mr = 36,000) undergoes a reversible, concentration-dependent association in nondenaturing buffers, probably to a tetramer. The Stokes radius (Rs) of aggregated TN-T, determined by sedimentation velocity and gel chromatography on Sephacryl S-300, is 80 A and the reduced viscosity of the subunit ranges from 20 to 25 ml/g at protein concentrations between 0.5 and 2.5 mg/ml. These data suggest that TN-T forms highly asymmetric aggregates in solution. Bovine cardiac TN-I also has a tendency toward self-association, but is essentially monomeric (Mr = 23,000) at protein concentrations below 1 mg/ml. The presence of reducing agent is necessary to avoid intermolecular disulfide bond formation. From gel filtration experiments, the value of Rs is 29 A indicating that TN-I is a moderately asymmetric protein (frictional ratio = 1.5). Similar properties are observed when both sulfhydryl groups of TN-I are modified by carboxamidomethylation.

L33 ANSWER 41 OF 41 MEDLINE

ACCESSION NUMBER: 71011997 MEDLINE

DOCUMENT NUMBER: 71011997 PubMed ID: 4248628

TITLE: A study of the role of sulfhydryl groups

in the interaction of **troponin** and myofibrils.

AUTHOR: Parker C J Jr; Kilbert L H Jr

SOURCE: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (1970 Oct) 140 (2)

326-33.

Journal code: 0372430. ISSN: 0003-9861.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 197012

ENTRY DATE: Entered STN: 19900101

Last Updated on STN: 19900101 Entered Medline: 19701209

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LET ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS
ATTESSION NUMBER:
                     2002:51523 CAPLUS
I TIMENT NUMBER:
                          136:101259
 TITIE:
                           Thromato maphic purification of human
                          sulfhydryl-protected 100 main and
                          troponin I
                           Conn, Greatry, Rearism, Brian; Cena, Kiandang; Thana,
 Chenming
                          Diosynth RTP, Inc., USA
FATENT ASSIGNEE(S):
SAURCE:
                          PCT Int. Appl., 28 pp.
                          CODEN: FIXXD2
O MIMENT TYPE:
DANGUAGE:
                          24* 61.*
                          English
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FAMILY ACC. NUM. COUNT: 1 FATENT INFORMATION:

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APPLICATION NO.
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      WO 2002004512
      A2 20020117

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            W: AE, AG, AL, AM, AT, AU, AZ, BA, EH, BG, BR, BY, BZ, CA, CH, CN,
                 CO, CE, CU, CE, DE, IK, DM, EC, EE, ES, F1, GB, GD, GF, HR, HC, 10, 11, IN, 18, G, EE, FG, HL, FF, EC, IC, IK, IB, IC, IT, IC, EV, MA, MB, MG, MK, IC, MV, IX, EL, IC, IC, IL, EL, F, FC, G, SE, GG, S1, SK, GL, TC, TM, TR, TC, TZ, UA, UG, US, UZ, VN, YJ,
                 ZA, ZW, AM, AZ, BY, EG, FZ, MD, EH, TJ, TM
            RW: GH, GM, KE, LS, MW, MZ, SD, SL, SD, TD, UG, ZW, AT, BE, CH, CY,
                 DE, IK, E3, F1, FE, GB, GF, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, C1, CM, GA, GN, GW, ML, ME, NE, SN, TD, TG
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                                                      US 2000-211069P P 20000710
PRIORITY APPLN. INFO.:
      The invention is directed to methods for purifying troponin
AB
       I, particularly recombinant troponin I
       produced in a bacterial empression system. Recombinant troponin
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The invention is directed to methods for purifying troponin

I, particularly recombinant troponin I

produced in a bacterial expression system. Recombinant troponin

I can be advantageously purified after reversibly protecting the

free sulfhydryl groups, e.g. by forming sulfates. In a specific example,

troponin I reacted with spirar tetrathionate yielded

sulfitelyized troponin I, which was purified by

chromatog, or, an anion exchanger, follower by hydrophobic interaction

chromatog. Facile deprotection of the sauthydry, groups yields a highly

purified product ready for refolding.

L67 ANSWER 2 OF 6 USPATFULL

ACCESSION NUMBER: 2002:126323 USPATFULL

TITLE: Purification of human troponin

Ι

INVENTOR FO:

Conn. Reserry, Cary, N., UNITED STATES
Reardon, Brian, Seattle, WA, UNITED STATES
Beng, Klanfang, Northborough, MA, UNITED STATES
Bhang, Cherming, Blacksburg, VA, UNITED STATES

PATENT ASSIGNEE(S): Diosynth RTP, Inc. (U.S. corporation)

	NUMBER	KIND	DATE	
EATENT INFORMATION: APPLICATION INFO.:	US (2011) - 1+35 US (2011 - 13339)		20020330	ļat
	NUMBER	es e La Art	TE	
PRIORITY INFORMATION: FOCUMENT TYPE: FILE SEGMENT: LEGAL REPRESENTATIVE:	US 2000-017069P Utility APPLICATION DARBY 5 DARBY 5.6			uc, New York, NY,
NUMBER OF CLAIMS: EXEMPLARY CLAIM:	infi) Cr 1 Orawing Fage(:			
LIME COUNT: CAS INDEXING IS AVAILA	566 BLE FOR THIS PATEN	Γ.		_
	s directed to metho			

In particularly recombinant Trophin I produced in a bacterial expression system. Become mant Trophin I can be always are usely publicular for reversibly protection the free sulfhydryl groups, e.g., by formula sulfates. In a specific example, Trophic I can be always with a competitive sulfate yielded sulfitelymed Trophin I, which was purified by chromatography on an anion exchanger, followed by hydrophobic interaction chromatography. Facile deprotection of the sulfhydryl groups yields a highly purified product ready for refolding.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

16" ANSWER 3 OF 6 USPATFULL

ACCESSION NUMBER:

Purification of numer troponin TITLE:

Conn, Gregory, Cary, NC, UNITED STATES INVENTOR(S):

Feardon, Brian, Seattle, WA, UNITED STATES

Reng, Mianfang, Northbirough, MA, UNITED STATES Chang, Chenming, Blacksburg, VA, UNITED STATES

liesynth RTP, Inc. (U.S. corporation) FATENT ASSIGNEE(S):

NUMBER KINE DATE

_____ ___ TS 2002055145 A1 20020509 US 2001-998619 A1 20011130 (9) PATENT INFORMATION:
APPLICATION INFO.:

Continuation of Ser. No. US 2001-903398, filed on 10 RELATED APPLN. INFO.:

Jul 1001, PENDING

NUMBER DATE

T\$ ((0))-211069F 200 (0711) (60) PRIORITY INFORMATION:

DOCUMENT TYPE: "tility APPLICATION FILE SEGMENT:

MARBY & DARBY P.C., 805 Third Avenue, New York, NY, LEGAL REPRESENTATIVE:

10022

20 NUMBER OF CLAIMS: EXEMPLARY DIAIM:

11 Drawing Page(3) NUMBER OF DRAWINGS:

LINE COUNT:

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The invention is arrected to methods for purifying Troponin

I, particularly rescribinant Tropnin I produced in a bacterial expression system. Fedombinant Tropnin I can be advantageously purified after reversibly protecting the free sulfnydryl groups, e.g., by forming sulfates. In a specific example, Tropnin I reacted with sodium tetrafhionate yielder sulfittelyzed Tropnin I, which was purified by chromatography or an anion exchanger, followed by hydrophobic interaction chromatigraphy. Basile degrees will not the Sulthymyl at the y.elds a highly purified product ready for refolding.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L67 ANSWER 4 OF 6 WPIES (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 20 2-174921 [20] WPIDS 100. No. OFF: 02 30-48490

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Purifying troponin I comprises

subjecting troponin I to

chromstography on amion exchanger after reversibly

protecting the free sulfhydryl groups.

DERWENT CLASS: B14 D16

INVENTOR(S): CCMN, G; REARDON, B; ZENG, X; ZHANG, C

([HOS-N) DIOSYNTH ETP INC PATENT ASSIGNEE(S):

WINTRY COUNT:

PATENT INF PHATION:

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EW: AT BE OH ON DE DE EA ES FI FR GB GH GM GR IE IT EE LS LE MO MW MZ

·MI OA PT SP JE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG ER BY BZ CA CH CN CO CB CU CZ LE CK

APPLICATION DETAILS:

PATENT NO KIND		APPLICATION	EATE
WO 2002304512 A.: AT 2001 13345 A US 2002015145 AL E. Co	ovisional ont oi	WO 2001-7821817 AM 2001-7834+ OC 2003-7417064F OS 2001-903395 US 2001-998619	20010716 20010717 20010717 20011130

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 20010133	48 A. Based on	Bar 10 3004613

PRIORITY AFPLN. INFO: US 2000-217069P 20000710; US 2001-903398 20010710; US 2001-998619 20011130

AN 2002-154921 [20] WPIDS AB W0 200204512 A UPAB: 20020402

NOVELTY - Preparing troponin I, comprising protecting free sulfhydryl groups of troponin I under reducing conditions, and troponin I is then purified by subjecting troponin I comprising sulfhydryl protecting groups to chromatography, is new.

THETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for troponin I comprising sulfhydryl protecting groups.

ACTIVITY - Cytostatic.

MECHANISM OF ACTION - Inhibitor of angiogenesis. No supporting data is given.

USE - The method is useful for purifying troponin I, particularly resembliant troponin I. The highly purified troponin I, preferably in a full life state is useful for antibody generation, as a control or standard immunoassay reagent, or to inhibit angiogenesis important in treating various cancers.

ADVANTAGE - Protection of sulfhydryl groups during troponin I preparation eliminates the costly need for maintaining non-reducing conditions throughout protein preparation, purification and storage, and need for reducing agents. The sulfhydryl-protected troponin does not form intrachain or interchain disalfide prosslinks. Overall yield of troponin from the multi-step purification was greater than 50 at purity levels of greater than 950. Deprotection of the sulfhydryl groups yields a mighty purified product ready for refolding.

+ 160 ANSWER 5 OF 6 IFIPAT COPYRIGHT 2002 IFI
AN CONTROL OF FIRST, FRICTS

TITLE: PURIFICATION OF FUMAN TROPONIN

THVENTOR(S):

Conn; Gregory, Cary, NJ, TJ Reardon; Brian, Seattle, WA, US Zeng; Xianfang, Northborough, MA, US Zhang; Chenming, Blacksburg, VA, US

FATENT ASSIGNEE(S):

A HENT:

SSIGNEE(S): Dibsynth RTP, Inc.

DARBY & DARBY P.C., 805 Third Avenue, New York, NY,

100.7, 75

NUMBER DATE

"\$ 2000-21"06920000710 /Fromisional A Company of the state of the s FARILY INF BRATT IN: DAMMENT TYPE: Fatent Application - First Fub. 1347 236 CHEMICAL FILE SEGMENT: APPLICATION 20 11 Figure(s). NUMBER OF CLAIMS: DESCRIPTION OF FIGURES: FIGS. 1A and 1B. A. Proposed reaction for oxidative sulfitolysis. B. Cleavage of disulfide bond by sodium sulfite to form the Ssulfo derivative. FIG. 2. Freparation and washing of Thi-containing in the state of the FIG. 3. Summary of rTroponin-1 preparation. FIG. 4. Q-Sepharose FF chromatography of Troponin I. Buffer A: 6 M urea, 25 mM Tris-HCl, pH 7.5, 100 mM; Buffer B: 6 M urea, 25 mM Tris-ECl, pH 7.5, 2 M NaCl; Gradient: Step, 0% B for the flow-through and 100-B for the strip; and Flow rate: 150 ml/ min. FIG. 5. 301 ml Q-sepharose FF chromatography. Buffer A: 6 M urea, 25 mM Tris-HCl, pH 0.5, 100 nM; Buffer E: 6 M urea, 25 mM TrisHCl, pH 0.5, 2 M NaCl; Gradient: Step, 4 B for elition and 0 F for strip; and Flow rate: 20 ml/min. FIG. 6. SDS-PAGE analysis troponir lot after anion exchange steps no. 1 and no. It in 16% tris-glydine gel, under nonroducing conditions. A-H refer to lakes in the SDS-PAGE gel. A. Sulfitolyzed troponin Lot 3L4 standard; B. solubilized inclusion podies; C. sulfitolyzed inclusion bodies (AEX No. 1 load); D. anion exchange no. 1 flowthrough; E. anion exchange no. 1 salt eulate; F. anion exchange no. 2 load; G. anion exchange no. 2 flowthrough; and, H. anion exchange no. 1 100 mM NaCl eluate. FIG. 7. Toyopearl 6-0 M (phanyl) HIC enromatograph. Buffer A: 6 M urea, 25 mM Tris-EC1, pH 0.5, 1 M (NH4)2S04; Buffer B: 0 M urea, 25 mM Tris-H01, pH 0.5; Gradient: Step, 100 B for the flow-through and Co B for strip; and Flow rate: 10 ml/min. FIGS. 8. SDS-PAGE analysis troponin lot after hydrophobic interaction chromatography in 16% tris-glycine gel, under nonreducing conditions. A-F refers to lames in the SDS-PAGE gel. A. Sulfitalyzed troponin Lot 3L4 standard; B. AEX step no. 2, troponin eulate pool; C. HIC load (w/1M ammonium sulfate); D. HIC flowthrough (troponin product); E. HIC low salt eulate (column strip); F. lot 315 sulfiteyIzed troponia product. FIG. 9. Quantitation of rInI on Worbaw Ca. FIG. 10. Troponin I LysC mapping. FIG. 11. SD S-PAGE unalysis of sulfitolyzed troponin reduction with dithiothreitol for 45 mins. at ambient temperature. One mg/ ml TnI in 6 M urea, 25 mM tris, 0.15 M NaCl pH 7.5, run on 16% tris-glycine gel. 1. 10., Mark 12 MW Stis; 2. 9., sulfitolyzed ThI; 3. 0.05 mM DIT; 4. 0.10 mM DIT; 5. 0.2 mM DIT; e. 0.3 mM PTT; 7. 0.5 mMDTT; 3. 1.0 mM DTT. The invention is directed to methods for purifying Troponin I, particularly recombinant or phic I produced it a parterial expression system. Resumbinant Tropais I can be advantage using publica after reversibly protecting the free sulfhydryl groups, e.g., by forming sulfates. In a specific example, Tropnin I reacted with sodium tetrafhionate yielded sulfitolyzed Tropnin I, which was purified by chromatography on an anion exchanger, followed by hydrophobic interaction chromatography. Facile deprotection of the sulfhydryl groups yields a highly purified product ready for refolding. 26 11 Figure(s). FIRS. IA and IR. A. Proposed reaction for oxidative sultitolysis. P. Clearage of desulfide bond by sodium sulfite to form the Usuita derivative. FIG. 2. Preparation and washing of InI-containing inclusion bodies. FIG. 3. Summary of rTroponin-I preparation. FIG. 4. 2-Sepharose FF chromatography of Troponin I. Puffer A: 6 M orea, 25 mM Tris-HOl, pH 7.5, 100 mM; Buffer B: 6 M ores, 25 mM Tris-Hol, pH 7.5, 100 mM; Buffer B: 6 M ores, 25 mM Tris-Hol, pH 7.5, 1 M NaOl, Predictors Step, 1 H is a the continuence of Mid. St. S. Bill, Persphar see FF Chr. mat in phys. Butter Air of M. Great C. W. Christelli, ph. 7.5, i.e. pMs. Butter Brit. Monrey, of pM. Trosh W. Ff. St. A. W. NaCl; Gradient: Step, 4 B for elution and 50 B for strip; and Flow rate: 21 ml/min.

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FIG. 6. SDS-PAGE analysis troponin lot after anion exchange steps no. 1
      and no. 2 in 16; tris-glycine gel, under nonreducing conditions. A-H refer to lanes in the SDS-PAGE gel. A. Sulfitolyzed troponin Lot 314
      standard; B. solubilized inclusion bodies; C. sulfitblyhed inclusion
     bodies (AHX No. 1 load); D. anion exchange no. 1 flowthrough; E. anion
      excharge no. 1 salt emlate; F. anion exchange no. 1 load; G. anion
      exchange no. 2 flowthrough; and, H. anion exchange no. 2 100 mM NaCL
     FIG. 7. Toyopearl 650 M (phenyl) HIC chromatograph. Buffer A: 6 M urea, 25
     mM Tris-HCl, pH 7.5, 1 M (NH4)2SO4; Buffer B: 6 M urea, 25 mM Tris-HCl,
      pH 7.E; Gradient: Step, 100% B for the flow-through and 0% B for strip;
      and Flow rate: 10 ml/min.
     FIGS. 6. SOS-PAGE analysis troponin lot after hydrophobic interaction
      chromatography in 16 trus-glyline wel, under numreducing conditions. A-F
     refers to lanes in the MMS-FAGE per. A. sulfit lyred tropunin 10: 3L4 standard; B. AEX step no. 2, troponin eulate pool; C. HIC load (W/1M
     ammonium sulfate); D. BIC flowthrough (troponin product); E. HIC low salt
      eulate (column strip); F. lot 3LE sulfitoylzed troponin product.
     FIG. 9. Quantitation of rTnl on Zorbax C3.
     FIG. 19. Troponin I LysC mapping.
     FIG. 11. 3D S-PAGE analysis of sulfitolyzed troponin reduction with
      dithipthreitol for 45 mins. at ambient temperature. One mg/ ml ThI in 6 M
      urea, 25 mM tris, 0.15 M NaCl pH 7.5, run on 16 tris-glycine gel. 1.
      10., Mark 12 MW Stds; 2. 9., sulfitblyzed TnI; 3. 0.05 mM DTT; 4. 0.10 mM
      DTT; 5. 0.2 mM DTT; 6. ...3 mM DTT; 7. 0.5 mMDTT; 3. 1.0 mM DTT.
L67 ANSWER 6 OF 6 IFIPAT COPYRIGHT 2002 IFI
                           10111538 IFIPAT; IFIUDB; IFICDB
                            PURIFICATION OF HUMAN TROPONIN
TITLE:
                           Conn; Gragory, Cary, NC, 98
1NVENTOR(S):
                           Reardon; Friam, Seattle, WA, US
                            Meny; Mianfang, Northborough, MA, US
                            Chang; Cherming, Blacksburg, VA, US
                           Liosynth FTP, Inc.
PATENT ASSIGNEE(S):
                            PARBY & PARBY P.C., 805 Third Avenue, New York, NY,
AGENT:
                            10002, US
                              NUMBER PK DATE
                            ______
FATENT INFORMATION: US 2001015145 A1 20020509 APPLICATION INFORMATION: US 2001-998619 20011130
                                                               GRANTED PATENT NO.
                                                    DATE OR STATUS
                           APPLN. NUMBER
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                           ''s 2001-903398
                                                    20010710 PENDING
CONTINUATION OF:
                              TUMPER
                            TAPE
                            MS 2000-21706920000710 (Provisional)
                          #S 2002055145 20020509
FAMILY INFORMATION:
DOCUMENT TYPE:
                          Utility
                           Patent Application - First Publication
                            THEMICAL
FILE SEGMENT:
                           APPLICATION
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NUMBER OF CLAIMS:
                            - #7095575 YE FEEDBEEL
FIRE IA and IB. A. Proposed reaction for exidative sulfitolysis. B. Thavage
t disulfide bond by sodium sulfite to form the Saulfo derivative.
  3. 2. Preparation and washing of TnI-containing inclusion bodies.
FIG. 3. Summary of rTroponin-I preparation.
FIG. 4. Q-Sepharose FF chromatography of Troponin I. Buffer A: (M. urea, 28 mM Tris-H71, pH 7.5, 100 mM; Buffer B: 6M urea, 28 mM Tris-H71, pH 7.5, 100 mM; Buffer B: 6M urea, 25 mM Tris-H71, pH 7.8,2M NaOl; Gradient: Step, 7 H for the flowthrough and 1 H R for the
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strip; and Plow rate: 150ml/min.

FIG. 5. 300 ml Q-sepharose FF minimatography. Butter At eM 2204, 20 mM This-Hol, pH 0.8, 100 mM; Buffer H: 6M urea, 25 mM TrisHCl, pH 6 .5, LM NaCl; Gradient: Step, 4 B for elution and 50: B for strip; and Flow rate: 20 ml/mlm. FIG. 6. SDS-FAGE analysis troponin let after anion exchange steps no. 1 and no. 2 in 16 tris-glycine gel, under nonreducing conditions. A-H refer to lanes in the SDS-PAGE gel. A. Sulfitelyzed troponin Lot ML4 standard; B. solubilized inclusion bodies; C. sulfitolyzed inclusion bodies (AEX No. 1 load); D. anion exchange no. 1 flowthrough; E. anion exchange no. 1 salt enlare; F. arion exphange no. 2 load; G. anion exchange no. 2 thorthrough; and, H. anion emchange no. 2 100 mM NaCl eliate. Fig. 7. Toyopearl 650M (phenyl) HIC thromatograph. Buffer A: 6M urea, 25 mM Tris-HCl, pH 7.5, 1M (NH4)2304; Buffer B: 6M urea, 25 mM Tris-HCl, pH 7.5; Gradient: Step, 100 B for the flowthrough and 00 B for strip; and Flow rate: FIG. 8. SDS-PAGE analysis troponin let after hydrophibic interaction chromatography in 16 tris-glycine g-1, under nonreducing conditions. A-F refers to lanes in the SDS-PAGE gel. A. Sulfitelymen troponin Lot 314 standard; B. AEM step no. 1, troponin eulate poet; C. HIC load (w/lM unmenium sulfate); D. HIC flowthrough (trop:n.n product); E. HIC low salt eulate (column. strip); F. lot 3L5 sulfiteyized triponim product. FIG. 9. Quantitation of rTnI on Zorbax C3. FIG. 1). Troponin I LysC mapping. FIG. 11. SDS-PAGE analysis of sulfitolyzed troponin reduction with dithiothreifol for 45 mins. at ambient temperature. [me mg/ ml TnI in 6M urea, 25 mM tris, 3.15M NaCl pH 7.5, run on 16 tris-clycine gel. 1.10., Mark 12 MW Stds; 2.3., sulfitalyzed TnI; 3. 0.0 mM DTT; 4. 0.11 mM DTT; 5. 0.2 mM DTT; 6. 0.3 mM DTT; 7. 0.5 mMDTT; 3. 1.0 mM DTT. The invention is directed to methods for purifying Troponin I, particularly resembanant Tropnin I produced in a bacterial expression system. Recombinant Tropnin I can be advantageously purified after reversibly protecting the free sulfnydryl groups, e.g., by forming sulfates. In a specific example, Tropnin I reacted with sodium tetrafnionate yielded sulfitolyzed Tropnin I, which was purified by chromatography on an amion exchanger, followed by hydrophobic interaction chromatography. Facily deprotection of the solithydryl groups yields a nightly purified product ready for refolding. CLMN 20 11 Figure(s). FIGS. 1A and 1B. A. Proposed reaction for oxidative sulfitolysis. B. Cleavage of disulfide kend by sedium sulfite to form the Ssulfo derivative. FIG. 2. Preparation and washing of TnI-containing inclusion bodies. FIG. 3. Summary of rTroponin-1 preparation. FIG. 4. p-Sepharose FF bromatography of Troponin I. Buffer A: 6M urea, 23 mM Tris-801, pH 0.5, U mM; Fuffer H: 6M 06-4, 3 mM Tris-Hol, pd 0.5,2M NaCl; Gradient: Step, 6 B for the flowthrough and 100 B for the strip; and Flow rate: 150m. min. FIG. 5. 300 ml 2-sepharese FF chromatography. Buffer A: 6M urea, 25 mM Tris-HCl, pH 7.5, 100 rM; Buffer B: 6M urea, 25 mM TrisHCl, pH 7.5, 2M NaCl: Gradient: Step, 4% B for elution and 50% B for strip; and Flow rate: 20 ml/mlm. FIG. 6. SDS-PAGE analysis troponin lot after anion exchange steps no. 1 and no. 2 in 16 tris-styring wil, under thereducing conditions. A-H refer to lames in the CDS-PAGE gel. A. Sultibly sed troponin L to the standard; B. solubilized inclusion bodies; C. sulfitolyped inclusion bodies (AEX No. 1 load); D. anion exchange no. 1 flowthrough; E. anion exchange no. 1 salt eulate; F. anion exchange no. 2 load; G. anion exchange no. 2 flowthrough; and, H. anion exchange no. 2 100 mM NaCl FIG. C. Toyopearl 650M phenyl) HIC chromatograph. Paffer A: 6M urea, 25 eM Tris-HII, pH C.5, in SH4 2704; Burfer G: 6M urea, 25 eM Tris-HII, pH C.5; Explored C: 6M urea, 25 eM Tris-HII, pH C.5; Explored C: 6M urea, 25 eM Tris-HII, pH Flow rate: 1 m. smin. FIG. W. STO-FAGE analysis troponin lot after hydrophobic interaction chromatography in 16% tris-glycine gel, under nonreducing conditions. A-F refers to lames in the SDS-PAGE gel. A. Sulfitelyzed troponin Lot 314 standard; B. AEX step no. 2, troponin eulate pool; C. HIC load (w/lM ammonium sulfate); D. HIC flowthrough (troponin product); E. HIC low sa.

eulate (column strip); F. lot 3L5 sulfitoylzed troponin product. FIG. 9. Quantitation of rTnI on Zorbax 03. FIG. 11. Troponin I Lys0 marping.

FIG. 11. Troponin I lys0 mapping.
FIG. 11. SDM-FAGE analysis of sulfit-lying troponin required with dithicthreitol for 45 mins. at ambient temperature. One mg/ ml Tr. in dM urea, 25 mM tris, 0.15M NaCl pH 7.5, run on 16% tris-glycine gel. 1.10., Mark 12 MW Stds; 2.9., sulfit-olyzed TnI; 3. 0.05 mM DTT; 4. 0.10 mM DTT; 5. 0.2 mM DTT; 6. 0.3 mM DTT; 7. 0.5 mMDTT; 8. 1.0 mM DTT.